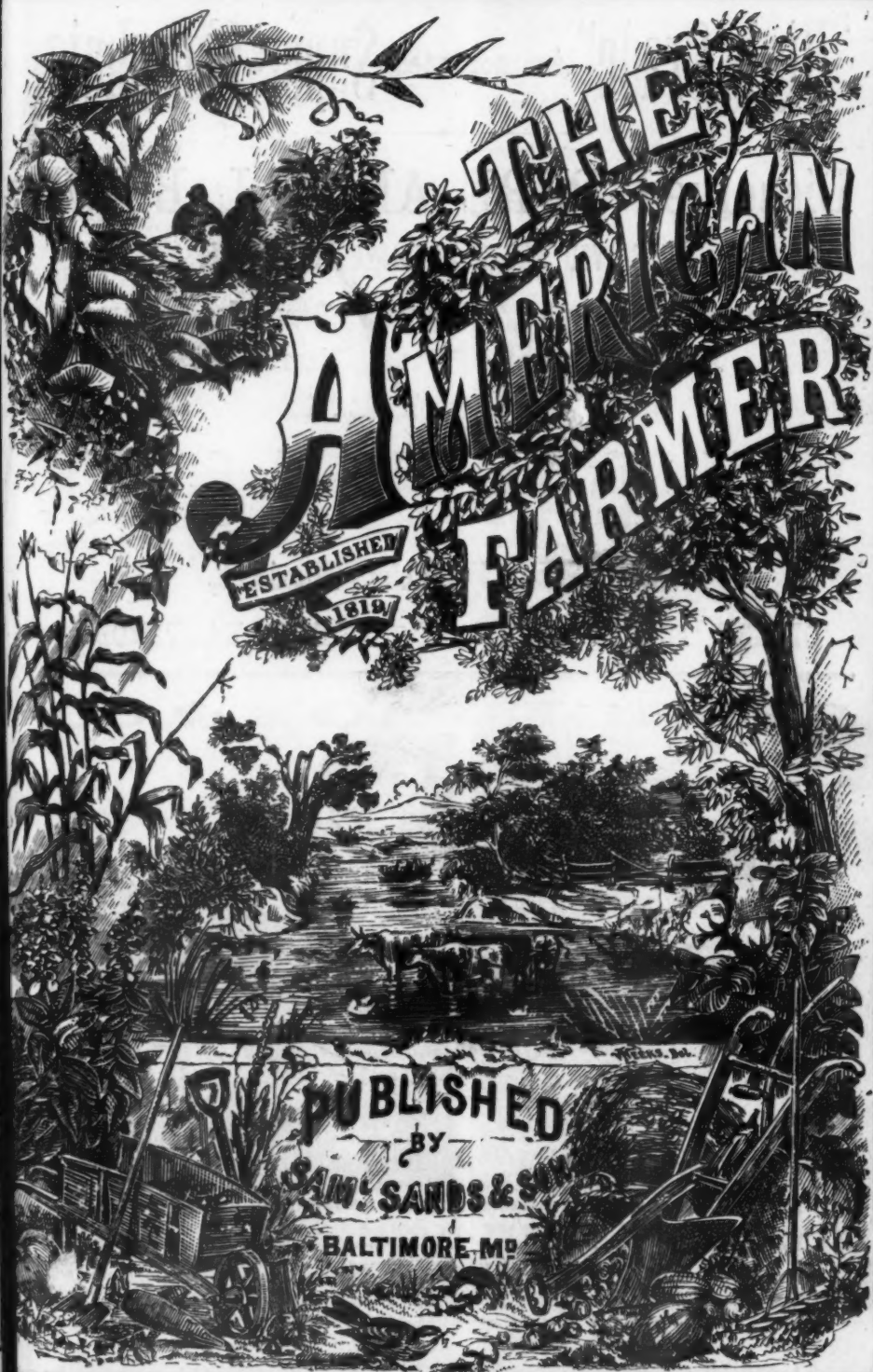


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THE AMERICAN FARMER.

"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS." Virg.

PUBLISHED BY SAML. SANDS & SON, BALTIMORE, MD.

VOL. IX.—No. 2.]

FEBRUARY, 1880.

[NEW SERIES.

MARYLAND.

Her Capabilities and Advantages.

Messrs. Editors American Farmer :

In the January number of the *American Farmer* I attempted to show some of the advantages and capabilities of Maryland for a front rank in farming as well as for commercial supremacy. I cited the example of Holland, a country but a third larger than Maryland, and built upon a flat oozy morass,—sustaining a population of nearly 4,000,000 against ours of less than 1,000,000, and one of the most wealthy and prosperous countries in the world. Her wealth and prosperity was shown to be due to the enterprise and industry of her people in availing of her natural resources by thoroughly draining the land and turning the superabundant moisture of her soil into navigable canals, with which the country was everywhere intersected,—affording to her people transportation upon the cheapest terms, and intercourses and facilities for commerce unrivaled. The opinion was also expressed by the intelligent writer from whom I quoted, that any country bordering the seas as did Holland, might, with the same industry and perseverance, attain as high a rank in wealth and prosperity as has rewarded that nation for its remarkable triumph over natural obstacles which would have discouraged and disheartened a less patient and courageous people.

Applying this example to Maryland, with its noble inland sea—the Chesapeake—with its four hundred miles of nearly solid shore; its navigable rivers, coves, inlets, watering and fertilizing, and affording free navigation to a solid shore, perhaps as great as that of the bay; superadded to which are the greater and quicker facilities afforded by the modern introduction of railroads, which can be made to penetrate every hill and valley where canals cannot be constructed; and Maryland, with her soil and climate and nearness to the sea, presents a field for agricultural wealth and improvement far more inviting than that upon which the patient Hol-

lander was content to settle and redeem from sea and oozy morass. But Holland is not the only people that has shown to the world what care, industry and perseverance can accomplish when applied to agriculture and the cultivation of the earth. Perhaps as remarkable for industry and perseverance as the Hollander, if not more so, is the Chinese. The same writer from whom I first quoted thus speaks of this remarkable people:

"China extends from under the Tropic of Cancer to about thirteen hundred miles north, and thereby contains within itself all the variety of climate and degrees of heat and cold that is requisite for the productions of the earth. Inspired by some forecast or sagacity not imparted to the rest of mankind, they cut and quartered this vast continent by as many navigable canals as answered to the ducts and veins in the human body. These canals serve as links or chords to the grand community of the Chinese; they bind region to region, house to house and man to man, and hold the whole as one system or family together. This great kingdom is, thereby, become as one city, and the canals as so many streets, through which plenty is diffused by commerce to every part. If any art or useful invention commences or receives improvement in one place, it is immediately conveyed to every place for imitation and promotion. No portion of this wide continent lies waste or uncultivated, because the canals are as so many markets brought to every man's door, and by the perpetual demand of whatever is salable, excite the natives to exert themselves in providing all the redundancies they possibly can, that they may derive wealth to themselves by supplying the respective wants of others. Thus, through the expanded dominion of China, nothing is wasted; nothing lost; nothing superfluous; nothing wanting. All are employed, active, industrious, ingenious and thriving.

"Their canals are internally to them what seas are diffusely to the rest of the globe."

The Dutch first quoted followed the example of the Chinese. "This country," continues our author, "is now become as one great and extended metropolis to the universe, and through their

canals, as through paved and spacious highways, the world resorts with all its wealth. So encouraged and so incited, neither the lame nor the blind, nor the maimed, sit unemployed."

This glowing picture of two of the most remarkable people upon the earth—where, as was first said, "not a hand was unemployed or a foot of ground uncultivated"—presents to us food for reflection and imitation. Have we offered to all the people of Maryland the means and inducements necessary to incite the care, thrift and ingenuity so conspicuously displayed by the Hollander and the Chinese? We have upon the bay and its tributaries the cheapest kind of transportation—free water navigation—and I hope our people are beginning to avail of the rich harvest which awaits them in the development of its fruit and vegetable productions, and its more than golden harvest, in the natural gift of fish, fowl and oysters in the Chesapeake and its tributaries. The markets of the great cities of Baltimore, Philadelphia and New York invite them to the utmost stretch of skill, industry and ingenuity; and it would scarcely seem that a more tempting field could be presented to excite the industry and ambition of its fortunate inhabitants and population. But how about the central and western portions of the State, dependent upon land and railroad transportation? Have our statesmen and legislators had the wisdom and forecast to secure for them the facilities and advantages necessary to call out the ingenuity, thrift and enterprise which have made the Chinese and Hollander the wonder and admiration of the world? Bad roads, but one canal upon its extreme western border, and discriminating rates of railroads against them. Had ever a people who patiently and patriotically submit to heavy burthens of taxation for the support of government and the construction of commercial roads to bring Western produce in competition with their own a greater right to complain of indifference and neglect than the farmers in the portion of the State under consideration?

In more modern times France, perhaps, next to China and Holland, has done more by the construction of canals and highways to give employment to her people, and the opportunity and facilities of trade and intercourse, than any other nation. It is this and the sub-division of land which has made her farmers so prosperous, and enabled them so soon to recover from the oppressive and crushing blow inflicted upon them in 1871 by Prussia.

It is thus seen that canals chiefly have been the primary element of prosperity in the countries alluded to. Next to canals, railroads ought to be the cheapest means of transportation.

Ours, unfortunately, has outgrown the State and forgotten the mother which gave it birth. The prosperity of the section of the State through which it runs is of secondary consideration. The people in this section must rely upon themselves, but ought, in all cases, to be empowered and aided in the construction of turnpikes, tramways and in the improvement of county and neighborhood roads, so as to open the freest and least expensive mode for trade and intercourse possible. Next to production,

commerce has, in all ages and at all times, been the main spring of prosperity. Industry is essential to production, but commerce to the mutual exchange of commodities. Unfettered commerce is, therefore, the handmaid of industry, and both the parent of wealth. This commerce cannot be carried on without a medium; this medium, whether carried on by land or water, or by any of the modern contrivances of which the present age is so prolific, should be given and afforded to the people in all sections and parts of the State; and as it is seen that such facilities have stimulated industry, thrift and enterprise in other countries, and banished want, degradation and misery from among their people, it cannot be doubted that a like effect would follow the same policy if adopted and carried out in Maryland.

If there be any force in the facts and arguments above set forth, then as a starting point and to give practical effect to them, I would suggest the extension of the Chesapeake and Ohio Canal to Baltimore, as was originally intended when Maryland first subscribed to and was induced to become a shareholder in that unfinished and most unfortunate work. Tolls upon that work have already been adjusted to agricultural wants, and in favor of farmers to minimum rates. This extension can be made by uniting the eastern branch of the Potomac with the Patapsco, through the ancient ports of Bladensburg and Elkridge Landing, from whence in olden time Maryland's great staple, tobacco, was shipped to foreign parts; and if the suggestion of the Hon. Mr. Bannon which was laughed at at the time when first made, namely: that the labor of the convicts in the House of Correction (situated midway on the line of the preferred route for that canal) might profitably be utilized in the construction of that canal, then a double benefit would be conferred upon the State—the opening of a new and cheap line of commerce through a neglected portion of its territory, and at the same time give useful and profitable employment to a class of the population now an offence and a burthen to the commonwealth.

Another improvement also surveyed and talked of, and conceded to be of high value, both in a commercial as well as in an agricultural point of view: that is, what has been known as the Hanover cut-off, between Hanover switch on the Washington branch of the Baltimore and Ohio Railroad and Gaithersburg in Montgomery Co. This road would also pass through a much-neglected and isolated part of the State, but one that would quickly respond to, and make profitable any such advantages presented to it. If too small to command the attention of our great corporation, the Baltimore and Ohio Railroad, then give the right of way to any foreign company that this pathway from the Chesapeake to the great West may attract to its use and occupation.

But one other remains to be noticed in this article, and that is the National Railroad from Washington through Brookville, Westminster, and on to Hanover and Harrisburg in Pennsylvania. All other roads are East and West. This is North and South, and would be the beginning of the bisection which proved, as already shown

to be, so valuable to both China and Holland. I have spoken of lines only which have been already provided for by law, and some of them progressed so far as actually to have been the subject of minute and careful instrumental examination and survey.

Other improvements will doubtless be suggested for isolated and neglected parts of the State. The natural resources, temperate climate, central position and commercial advantages, agricultural productions and mineral deposits, give to Maryland, though small in territory, a wealth and substantial foundation, upon which, if true to herself, may be laid the elements of empire.

A. B. DAVIS.

The Application of Peruvian Guano.

A Reply to Henry Stockbridge, Esq.

Messrs. Editors American Farmer:

"Is there any analogy between organic animal life and inorganic land?" "Is there any such thing as stimulating land as distinguished from enriching it?" Of these two questions propounded by Mr. Stockbridge, one may be included in the other. Costly experience has decided for us that land may be and has been stimulated until it has not only not been enriched, but exhausted—"dead poor," it is hereabout baptized. Who can comprehend the mysteries of life? Science in vain has sought to fathom them. Life is all a mystery, in its inception, its development, continuance and its—termination?—suspension? No, its disappearance until "mortality shall put on immortality." "Mother earth" has been poorly understood and most shabbily treated. People will persist in calling her ugly names, as "inorganic," "inert" and others of like import. They treat her as a poor old defunct corpse, while she is giving life and sustenance to all; dosing her with villainous poisons, until, in many parts, she is sick nigh unto death. God made the earth, and God never made a dead thing. There is a strict analogy between organic life (animal and vegetable) and the land, which is the secondary source of life to everything that lives in it or upon its surface.

If we take the Mosaic account of the creation, we find evidence of organized life at the very threshold of our investigation. "And God said: 'Let the earth bring forth grass.'"—*Gen. I, vii.* "And the earth brought forth grass."—*V. 12.* Can a dead thing bring forth a living thing? Pursuing our enquiry through all the sacred record we shall find the attributes of life and organization given to the earth. She is said to keep silent, to keep still, to have fatness, to have a mouth, to swallow, to have ears and to hear; she sings, rejoices, is disquieted and mourns—is spoken to and teaches. Can inert, inorganic matter do these things? Never; and the man who supposes that this grand old earth is merely an anchoring-ground for trees and plants, is, it appears to me, greatly at fault in his philosophy. What does such a man mean when he speaks of the bosom of the earth, the bowels of the earth, and similar phrases? But it may be said that these scriptural expressions are merely figurative. So it has been said that "the lake of fire

and brimstone," into which was "cast all not found written in the Book of Life," is figurative; and so, with equal force, it may be asserted of that glorious city whose "walls are garnished with all manner of precious stones," it is only a metaphor. In fact, the whole Bible may be allegorized till hell and heaven, misery and happiness, punishments and rewards shall disappear, and nothing be left. "*Vox et preterea nihil.*" I protest against this wholesale abolition. But apart from the scriptures, what do facts and experience teach? Apply to the earth a little food—say a shovelful of manure; what becomes of it? Mother earth reaches forth her invisible organs, grasps it, feeds upon it and takes on fatness, and then she is prepared to "bring forth grass" and herb and fruit, which in some form is to become her future diet. How wondrously men speak and write of "plant food!" How little is thought of earth food! If we reject the Mosaic record of creation and take that of the Darwinian school we arrive at the same result, except, as it seems to me, it must lead to higher ground than I have taken and invest the earth with sentience and intelligence, as well as vital energy and organic function. It would be a trespass upon your space to state the argument from the theory of development.

The Athenian women adorned their hair with golden grasshoppers,—thereby denoting that man springs from the earth; and if time and space would admit it might be shown from the classic lore of "ye olden time" that the earth was regarded as a living organized body. It requires food, and, like man and the beasts and plants she produces, is strengthened by it—and is starved and must die without it. Potash is earth-food, and is by the earth appropriated and transferred, when applied, to plants. Phosphoric acid, "when the soil contains less than 3½ ounces to 2 cwts., will prove beneficial. When it contains 5 ounces phosphoric acid the addition of the salt will turn out to be useless." I quote from your French letter, page 7, January, 1880.

I have not yet seen the attempt to prove that ammonia is food for man or beast, or plant or earth. It is a most potent active stimulant, and, like all stimulants, the more that is used or applied the more is required. It is the most costly element in commercial fertilizers, and yet in God's great laboratory—the atmosphere—there is an abundance for the vegetation of the whole world. Learned men may talk of what the plant needs and what the soil requires, and say "it is easy for farmers to know the proportions of these elements which their different crops require;" but few farmers are chemists. Experience is their guide, and influenced by oily-tongued agents they have tried all manner of brands, with about the same result: which is that the crop belongs to the phosphate mill—the chaff and straw, the toil and anxiety to them. Thirty or forty years ago good crops were made without the aid of Peruvian guano or other expensive compounds. With clover and lime heavy crops were made, and what was made belonged to the farmers, and not to speculators, who know less about the land and its needs than the unlearned husbandman himself. Each land doctor has now his panacea, and its efficacy in all cases is not to be doubted or disputed.

Meanwhile the lands refuse to yield their increase without heavier doses. Why is this? One question and I am done. We have been using guano and its compounds nearly half a century. At the present rate of progress in the work of improving our lands by their use, how long will it be before we can dispense with them and still make the crops we did make forty or fifty years ago? Let Mr. Stockbridge and all my brothers of the soil consider and answer, if they can. Mr. S. fears that I shall "do mischief to myself and others" by my theory. The mischief is already done, for farmers all say that *without super-phosphate they can make no crops*; and with it, often not enough to pay for it.

Yours, truly,

Kent Co., Md., Jan., 1880. HOWARD MEEKS.

"Farming Don't Pay."

Messrs. Editors American Farmer:

There is an idea going the rounds that farming don't pay. I have thought if we should all stop farming and go for something that would pay, the country would be in rather a bad fix, and as I am very fond of the country, should like to have that notion stopped short.

Those who have always lived in the country know better, but those who have been brought up in the city want some instruction, which the writer has paid for in big figures, having had considerable experience in running his own farm and noticed the operations of his neighbors who came from the city.

I find we have done a great many things that do not pay. In my case I loved the country; everything in the shape of agricultural papers and periodicals I devoured with great relish. When I got well filled I purchased a farm where an old foggy farmer had lived peacefully to a good old age and died. When I got possession and surveyed the premises, I found from my undigested matter that the buildings were all wrong and in the wrong place. I pulled them down and put up the right kind in the right place. I found a piece of ground too low and a hill too high. I had the hill carted to the low place and made things smooth. I kept a good many hands employed, and they sung and whistled around and made things lively. I thought farming splendid.

Having got the old maxim, that he who by the plow would thrive, I determined to practice it. I got out my young team that an honest horse-dealer sold me for one-half they were worth; for he had plowed them himself and could recommend them to be as steady as a clock. I commenced in a field lately cleared, that I wanted to plant in corn; there were a good many stumps and lots of stone. I spoke to the team and they started off lively. I trotted along, keeping a firm hold of the handles, which I found rather difficult when the plow struck a stone or root, and I noticed when the plow was in the air the team improved the time to move faster, which used up all my surplus wind, and I began to get out of patience, and jerked and pulled them about sufficient to let them know who was master. When they stopped I found their breathing was short, but I kept them mov-

ing, thinking to bring them down to the right speed, when an old plowman came along and suggested tying them back. No, I was bound to carry my point. I noticed that when I looked at the men I had to work, they were always looking at me, seeming to be much interested; but I was bound to show them how plowing ought to be done. At last the team slowed down and came to a full stop. When I found the perspiration had run down and nearly filled my boots, and my stomach had collapsed, I started for the house and made directly for the pantry, and helped myself to bread and butter, which went with a relish I never would have thought possible.

On going again to the field I found I had been over considerable ground, and threw up nearly enough dirt to cover that which was not turned; but to tell of the starting that team and the broken shares, straps, swingletrees, chains, and horses, and the grass and weeds that were on that field after I had harvested 25 baskets of corn per acre, would be too tedious. I learned that kind of farming did not pay, but I kept on learning a little every year until I cleared a piece of woodland, and after taking out all the stumps and stones and ditching it, and with a good strong man and steady team, who turned over every inch, finely pulverized and manured, which gave me a crop of corn that paid all expenses and left the field in a fine order for another paying crop. Rather than hold an argument with those who say farming won't pay, I would compromise and say some ways of farming will pay small dividends, others will pay big; and I think I can make it plain how it will pay better than anything else.

Baltimore Co., Md.

JOHNNYCAKE.

Agriculture and Manufactures, with an Episode.

Messrs. Editors American Farmer:

The mere raising of large crops does not make the successful and prosperous farmer. The expense of raising them, whether in the form of manures or of labor, may eat up the profits. Then again the expense of getting them to market may do the same thing. Besides these, time enters largely into the calculation. The crops may be large, the expense of raising them small, and that of getting them to market reasonable enough, yet the time required to do it so long that they may reach there in a damaged condition, or in a worthless one.

Then, again, the producers' necessities, arising from the want of storing facilities on the farm, such as barns, cellars, &c., may compel him to ship at a time when the market is overstocked; the roads may do the same, or the demands of the farm leave him no time at the proper period for the purpose without serious injury to growing crops. All of these things must be studied, understood and practiced to make a truly prosperous farmer,—one who makes everything count.

Now, it is this proximity to market rendering time of marketing of less account, and also the condition of roads, together with superior facilities for procuring manures, that has made

many farmers anxious for manufacturing establishments in their midst, supposing that thereby the profits of farming would be enhanced. Indeed, it has long been an axiom with many that to encourage manufactures and build up a "home market" was the true way to make farmers prosperous.

Perhaps this may be true, yet facts do not bear out the assertion. Without discussing the question of the effect of high or of low tariff upon manufactures, or upon the general and permanent prosperity of a country, it is sufficient for our purpose to look at the whole question from the farmer's standpoint—that of his material prosperity.

It will be conceded that New Hampshire, Massachusetts, Rhode Island and Connecticut are manufacturing States: *i. e.*, they contain more cotton and woolen establishments than any others, have been longer at it, and consequently their influence upon farmers for good, or ill, should be the greatest.

Now in 1870 the farms in these four States had increased in value to \$342,838,447, from \$254,119,568 in 1850, or an actual increase of taxable property of \$88,718,879. To meet this their productions of corn, wheat, oats and potatoes had decreased 2,454,630 bushels; their stock of horses, cattle, sheep and swine had decreased in number 527,691 head. Notwithstanding this decrease in cereals and live stock, their farming implements and machinery cost them \$4,580,229 more than in 1850, while the price of farm labor (without board) had risen from \$5.85 in 1850 to \$29.67 per month in 1870. To offset this, their hay crop had increased 112,009 tons over what it was in 1850.

Turn we now to the other side of the picture. The cotton factories, although 66 less in number in 1877 than in 1850, had increased their capital from \$40,300,230 in 1850 to \$89,593,885 in 1870—an increase of \$49,293,655, or more than one-half of the increased value of the farms in 1870, notwithstanding they had less than one-sixth of the capital invested in 1850 than the farmers had.

The woolen trade does not present a different result. The factories had increased 108 in 1870 over what they were in 1850. The increase of capital was from \$16,313,992 in 1850 to \$45,913,000 in 1870—a gain of \$29,599,000 in twenty years.

Lest the cotton and woolen business of these four States might seem to be exceptional, we add the manufacture of cast iron, whose products are used by farmers quite as much as those of the cotton and woolen factories. These had increased in number from 174 in 1850 to 236 in 1870. Their capital had grown from \$2,740,550 in 1850 to \$8,169,414 in 1870—a gain of \$5,428,864.

Thus we see that these three industries increased their capital \$74,321,519, while the farmers only increased the value of their farms \$88,718,879, although they had invested in them \$254,119,568, as against the \$59,354,772 of the cotton, woolen and cast iron manufacturers in 1850.

Again, from this we see that while the farmers had increased their capital a little over one-third, the manufacturers had increased theirs

more than one and one-fourth times. It would seem that this difference in the yield of capital cannot be wholly fortuitous, but must be due to other causes which are constantly at work.

It was remarked in the commencement of this article that a knowledge of the "time" to sell was one of the ingredients of a prosperous farmer, but that this of itself, even if known, must be controlled by events which he was not always prepared to meet. This will be best understood by stating that taking the seven years from 1871 to 1878, both inclusive, corn was found to rule higher in the Baltimore market in the months of May and November; lowest in March and December,—this difference amounting to six cents per bushel, the average price being 68 in the first periods and 62 in the latter.

The reason is apparent: In May farmers are too busy; in November corn is too green; hence no shipments, scarcity and higher prices. But as corn is said to lose 17 per cent. in quality when kept a year, May would seem to be the best time to ship. Many farmers have no facilities to keep their corn, even if they could prepare it for shipment. To all such a "grain elevator" in Baltimore would prove a great convenience, besides enabling them to sell when the market was highest. It is now understood in all well-informed circles that grain afloat is worth some six or eight cents less than when in "elevators." True, this depends somewhat on the wants of those who buy—whether millers, for coastwise trade, or for exportation. If for latter, difference is greater. The above facts are well worth considering by all farmers, and more especially by those who seek to "elevate and dignify labor."

Wicomico Co., Md.

A.

Education of Farmers.

Messrs Editors American Farmer:

The indifference which prevails among the rank and file of the farming community to concentrating their energies and influence is lamentable. What can be done to open the farmer's eyes to the paramount value of massing his strength for the purpose of bettering his condition in every respect? It cannot be controverted that were he aware of the resistless power he might wield, he would need the serpent's wisdom and the dove's harmlessness for his guidance and control.

All wealth, all material greatness, all splendor and power are predicated upon and originate in agricultural progress and success. Had men been satisfied with merely existing and filling a condition but slightly removed from the brute, commerce never had a beginning, manufactures never flourished, nor kingdoms risen and fallen.

The world is full of vampires and parasites, and while their existence may be needful for maintaining an equilibrium among the irrational classes of creation, and for that matter among the rational ones too, yet we would not have the natural order reversed; for it is a perversion when the patient laborious producer becomes the dupe and victim of the designing non-producer.

Had I my way I would show the husbandman his position as unconscious master of the situation; and even if matters, in and out of his own calling, should of necessity revert a little towards a primeval state for a brief period, it might not be barren of valuable lessons to smooth-faced, oily-tongued harpies, who fasten upon and gorge themselves full of his vitals: the outcome of his unremitting toil. I would open his eyes to the inherent independence of his profession and the absolute dependence of all others upon it. This can be accomplished best by educating the less favored in literary and social culture through the medium of granges and clubs. Direct and frequent personal appeals to those who hesitate, are dilatory or opposed, will in most cases meet with success.

It should be the aim of the friends of co-operation to inculcate that doctrine with unflinching zeal and cheerful hopefulness, even in the face of disappointment and apparent failure. Those only are worthy of leadership and success who never despair in a good cause. The good must be kept always in view.

To come to details in the matter of the common domestic supplies, such as we all use, co-operation would save us in most cases a high percentage. The farmer's profits are at best small, so that any margin saved is so much gain. In the line here indicated a mighty revolution has been wrought already in countries beyond the sea. Why not follow the example there afforded us?

In the purchase of machines and implements, means might be adopted to affect a reduction of prices. One would think competition ought to afford relief and secure our protection from exorbitant charges; but does it? Do we not rather submit meekly to oppressive combinations?

But of all the false dependence of which the poor farmer has been the dupe, none exceeds that in fertilizers. Gullible always, the farmer's gullibility in his almost superstitious trust in commercial manures must have transcended all measure.

What a saving would not combination effect in this one article alone? The vast fortunes that have been heaped up in this business, (failures, if not entirely unknown, would seem to be rare), and with such uniform rapidity, admonish us how culpably we act in relying blindly on others where there is room for such wholesale fraud. Our blind faith is all the more galling when we consider the fact that the indispensable ingredients of a good fertilizer are well-known articles of ordinary commercial traffic and easily accessible in their utmost purity to all.

Nor should the benefits of combination end here. Why should we not lift up to a business level the administration of at least our county affairs? Here is a very wide field for action. Should business principles prevail where now political intrigue and chicanery, fraud and speculation revel, who can estimate the pecuniary advantages that would accrue to us, to say nothing of the demoralization we would check? For roads and bridges, matters for which at least we have an understanding, and which

come daily under our observation, we are, in some of the counties, annually robbed in a shameless manner.

Let us unite, then, for our mutual welfare and protection.

Baltimore County, Jan. 1880. D. GORSUCH.

OUR FRENCH LETTER.

The Phylloxera in France.

Messrs. Editors American Farmer:

M. Louis Faucon's plan for destroying the phylloxera by submersion having been called in question, that gentleman now examines the subject of destructive agents employed against the bug generally, and also investigated on the spot the instances where inundation failed. At the outset it is well to state that M. Faucon's vineyard of 56 acres has yielded during the recent vintage over 46,000 gallons of wine, where formerly he had almost none, and that in the Medoc, or claret district. His system is becoming rapidly adopted. The system is to flood the vines during the repose of the sap—that is to say, after the vintage. In the case of strong clays the submersion ought to endure 55 consecutive days; for more friable soils 65 days, and more permeable land 75. The sheet of water ought to vary from 6 to 9 inches in depth. The pressure is greater in proportion to the depth, and by forcing the oxygen out of the water suffocates the bug more effectually. For a similar reason the water should remain stationary or stagnant. In the trenches made to conduct the water care must be taken that no root of the vine be left exposed, as if so the phylloxera will seek a refuge on it as if it were a raft. It is to this circumstance that M. Faucon has found a few underground insects in his vineyard, and which opponents seized as evidence of failure. After the flooding copious manuring must be employed—the more liberal the greater yield and the more superior the quality of the fruit. Without citing the special cases, M. Faucon has found from personal examination that where his system was alleged to have failed the insuccess was to be attributed either to insufficiency of flooding or excess, or commencing too late and the subsequent inadequacy of manuring. At the National Agricultural school of Montpellier he has fairly experimented the submersion plan side by side with the chief insecticides: the sulphurets of carbon and potash. Here—an important factor in the question—the conditions were equal, and his system proved a success. In vineyards of the plains and alluvial land, where the vines are planted in a surface soil from 6 to 12 feet in depth, the toxic vapors from insecticide preparations must be limited; if excessive they kill the plant, and the cost of the agent is increased. The submersion and manuring are annual cultural operations.

In spite of these precautions, how explain the invasion of the phylloxera in summer? M. Faucon has traced the cause to the insects coming to the surface during the warm months and marching over the soil to wherever the vine roots are most juicy. He has demonstrated this in the case of his neighbors' vines, where the infection rages. He went further: he placed, in

the direction of infected vineyards, a band of oiled paper 10 inches by 6 on a stick, in July and August. The oil was constantly renewed and many insects caught, but no phylloxera till 29th of August, when a strong northeast breeze of a few hours duration projected 19 young aptere phylloxera on the paper. What, then, must be the numbers carried by the wind during the two or three months the insects remain on the surface of the soil? This is the origin of the summer infection, or re-invasion of the disease. M. Faucon has never been able to find in the south of France either the eggs of the insects or sexual phylloxera capable of producing them. In testimony of his successful efforts against the scourge, M. Faucon has lately been entertained at a banquet and elected president of a society to promote the submersion process.

Severe Weather and Its Effects.

The extremely rigorous winter, now hoped to have shown its worst, has so far not been bad for autumn-sown crops, which were effected under very favorable conditions, and were protected during the severe frost by a heavy layer of snow. The danger lies in the weather ceasing to be henceforth a wintry spring. The ordinary clearing-up outdoor farm-work has been brought to a stand-still; even threshing operations had been suspended. The manufacture of sugar from beet has had to be conducted under exceptional difficulties, as the pulp—where the juice is extracted by the cold process—becomes frozen in the bags and the press-work is very trying for the workmen. Further, a good deal of beet yet remains afloat or preserved in trenches, and tons of it are lying more or less well stored on the banks of rivers and canals. Trees, young ones especially, have suffered severely from the intense cold, and seed potatoes stored in cellars have been positively destroyed, so that farmers will have to buy in spring. Forage of all kinds is very scarce, which has led to a reduction of price in cattle; owing to inability to feed them they are sent to the market. The preserved residuum of grapes and apples, *marc*, is given to stock with advantage when warmed.

Beet Pulp for Cows.

Professor Gerard, of the veterinary school of Cureghem, has been consulted as to the effects of beet pulp on cows and heifers in calf. As commonly prepared the pulp of beet from a distillery is more nutritive than that from a sugar factory, save when the latter's pulp is prepared by the *diffusion* process; in this case it is richer in nitrogen, and, if freed from its excess of water, would be very valuable. Pulp ought never to be musty or altered, and should never constitute the sole diet for stock; it is not sufficiently rich in protein matters; in any case it is better suited for fattening purposes than milch cows or working bullocks. Mixed with cotton-seed cake, pulp can be safely employed. Not more than half the rations for cows and two-thirds for neat cattle ought to consist of pulp; otherwise cows may slip their calves, and stock bear a chronic diarrhoea.

Items.

A. M. Legarde states that he finds buckwheat a capital remedy for getting rid of noxious grubs;

in spring, when no frost is to be feared, he sows it thickly; it grows rapidly, and when in flower he ploughs it down in narrow furrows; he imagines that the grubs dislike the potash which the plant contains in notable quantities.

During the year 1878 the stallions belonging to the government studs of this country produced a sum of fr. 763,573 for serving mares; each entire covered on an average 59 mares. For the information of implement manufacturers there will be twelve regional shows this year in France,—the first commencing in May and the last at the close of August. These are capital opportunities for any foreigner to introduce agricultural novelties.

The French government intends to introduce some serious modifications in the agricultural schools, in order to make them practically useful. They are too dear. The experiment will be tried as in Bavaria, where an agricultural, mining and trades' school form one establishment, and all pupils can attend free, a certain number of boarding houses being registered at fixed prices; also, music will likely be encouraged, and the planting of roadways with fruit trees instead of poplars, elms, &c. Nor will the text-books be forgotten; these will have a less scientific character, and will familiarize the young with the rearing and caring of farm animals. In a word the instruction will be utilitarian. F. C.

Paris, January 1, 1880.

Farming in Queen Anne's, Md.

Messrs. Editors American Farmer:

We have been blessed so far with a most beautiful winter for farm work, and I am glad to be able to state that our people are making good their opportunities, preparing for the coming crops and reclaiming the waste places of their farms, cleaning and ditching. Wheat looks well; we have had much cloudy, damp weather, but not an excess of rain. The grass still grows, affording a good bite for sheep and other close-grazing stock. Winter feed is abundant, and our stock generally looks well. Farmers are much encouraged by the present prices of grain; they are satisfied with them and have sold nearly all their grain at home,—wheat at \$1.55; corn at 58 cents per bushel.

Stock-raising is fast growing in favor with us. A flock of sheep headed by a pure-bred Cotswold or Southdown, is a common occurrence, whilst many flocks, pure-bred, can be found here of the highest type of their breeds.

We have for a long time been celebrated for road horses, speedy and of great endurance, and since the introduction of Membrino and Hambletonian blood, we have four-year olds trotting in the thirties.

Our farmers of late have been breeding and feeding cattle with more care, and our high-bred stock is sweeping the deck at the fairs. Years ago the Devon fever pervaded our land, and by their introduction we procured a most valuable race of work-steers, but with the emancipation proclamation, the ox was liberated from his burden to a large extent as well as the negro,—it being considered by many that a negro in bondage without wages might drive an ox, but

it is a dear drive with the negro in pay; and now the ox is fatted for the butcher, generally, instead of being made a beast of burden, and the mule supplies his place in the yoke. It is never too hot in summer nor too sleety in winter as was the case with the ox.

The butter fever next prevailed, and bulls with the long horns went to the butchers, and their places were supplied by inferior tribes of Alderneys, Jerseys and the like. These did not reign long, but they poured in from all quarters, and our wives were delighted with the beautiful golden butter. But very soon they poured out as fast as they poured in, for alas! their veins could find no market.

Then were introduced the Herefords; they only left their mark here and there, an oddity to behold,—nothing more. These even have nearly ceased to exist, and blood from the noble Short-horn tribe is now being diffused through the most of our best herds. So much is this blood appreciated by our people that they gladly pay at our public sales from \$5 to \$15 more for a cow that shows the slightest trace of Short-horn.

And why should they be so partial to the blood? Because in them we combine a greater amount of beef of the best quality, butter of the finest flavor and a large amount of milk that is good even after the cream is skimmed from it. Our towns are now supplied with beef that would do credit to a London market. Butter is no longer an article of import; and our veals are in demand at home and in the Philadelphia markets. At from three to four months old they bring as much as did cows twenty years ago.

It is a noticeable fact that high farming and Short-horns roll on together; and should you visit old Queen Anne's in 1880, you will find her fields growing two blades of grass where one grew before, and her hills dotted by snow-white fleeces, whilst her meadows echo to the weighty tread of the beautiful roans and reds.

CENTREVILLE.

Queen Anne's Co., Md., Jan. 19, 1880.

Farming in Upper Montgomery.

Messrs. Editors American Farmer:

The farming interest has greatly improved in this part of our county in the last four or five years. Farmers who formerly raised ten bushels of wheat per acre now raise about double that quantity. The area sown is also fully double that of former years. The corn crop has materially increased to the acre. The area planted has, in my opinion, diminished. The tobacco crop diminished,—caused, doubtless, by the low prices received for that staple. The tobacco interest is destined to go still lower, unless the whole system of tobacco inspection is reformed. We all get what is known as "the *rogue's* price" for our tobacco, and honest planters cannot afford to raise it at that price. I entertain the hope, however, that the planters, dealers and manufacturers will rise up in such numbers as will force the present legislature to reform or abolish the whole system, which is a reproach to the State and injurious to all connected with the tobacco interest—the politicians excepted. P.

How the Farmers have led the way to Revived Prosperity.

On accepting the office of Lecturer in Garrison Forest Grange, Dr. J. T. Councilman said he was obliged to the grange for the honor conferred, though if the honor and the duties had been conferred upon some one else more worthy he should have been delighted. A man is always at a disadvantage when off the line of his specialty, and always best on the subject on which his thoughts are most concentrated. He accepted the office not because he thought he had the qualifications to perform its duties, but because in associations of this kind he felt it obligatory upon every member to accept the position assigned him and do his best to perform its functions. He did not claim to speak, however, as one "having authority," for his farming, unlike the kingdom of heaven, "cometh by observation," and of all people on earth your granger is the one who most despises the theorist. Yet theory should precede practice, and there are but few practical men who are without theories on the subject of farming.

The subject is one of momentous importance—in fact, is the foundation of all other interests. All nature is divided by the scientist into three kingdoms: the mineral, the vegetable and the animal. The granger is the emperor of all: his farm and the atmosphere is the mineral kingdom; his crops the vegetable, and his stock the animal; and, like the good emperor, he ought to be intimately acquainted with every part of his dominions. A year or two ago the politicians came to a standstill; the country was staggering under a load of debt that threatened to overwhelm it; bankruptcy had overtaken the wealthiest firms and stared all in the face; the fires had gone out in our furnaces; the hammer of the artisan had ceased its clang; the laborer had become a tramp; our railroads were languishing; our money had all gone across the Atlantic. The farmer came to the rescue; he sent across the ocean a stream of wheat and corn and cotton, of meat and butter and cheese; reversed the current of trade, and there was a balance of \$300,000,000 in our favor; the money returned, and with it prosperity. The politicians took the credit: "Lo! we have done it," said they; "we have resumed specie payments." And they had, but it was with the grangers' money; without that, resumption would not have lasted six months.

Whence came this stream of cereals which has so much improved our condition? From the virgin soils and teeming fields of the West. The Atlantic States are scarcely self-supporting. It costs nearly as much here to raise a bushel of wheat as it is worth when raised. In Western Europe it costs more. Why? Because we have exhausted our soils by injudicious and unscientific farming. New York State, that formerly raised large quantities of wheat and flour for export, now only raises one-third of what is required for the support of its own population, and, from the operation of the same causes, this, sooner or later, will be the condition of the Western States, unless a better system is adopted. Wheat we must have, for first-class men cannot

be raised without wheat to feed them on, and to grow wheat and corn the phosphates are indispensable. Phosphorous is a substance nowhere plentiful in nature; and as man cannot create an atom of it any more than he can create an universe, we must carefully save the particles that God has created for us. In short, as grangers, we must try to feed the rest of mankind while they work for us; and to discuss the ways and means of doing this effectually and economically is the duty of the grange. It is my duty as lecturer to try and manage this discussion so as to make it as interesting and instructive as possible. Brother grangers, I shall give you the *theory*, and I shall look to you for the *practice*.

Cultivation of Tobacco.

In the report for 1878 of the United States Department of Agriculture, we find the following paper on the management of the Tobacco crop:

I. Select good land for the crop; plow and subsoil it *in autumn* to get the multiplied benefits of winter's freezes. This cannot be too strongly urged.

II. Have early and vigorous plants and *plenty* of them. It were better to have 100,000 too many than 10,000 too few. They are the cornerstone of the building. To make sure of them give personal attention to the selection and preparation of the plant-bed and to the care of the young plants in the means necessary to hasten their growth, and to protect them from the dreaded fly.

III. Collect manure in season and out of season, and from every available source—from the fence-corners, the ditch-banks, the ural, the ash-pile. Distribute it with a liberal hand; nothing short of princely liberality will answer. Plow it under (both the home-made and the commercial) in *February*, that it may become thoroughly incorporated in the soil and be ready to answer to the first and every call of the growing plant. Often (we believe generally) the greater part of manure applied to tobacco—and this is true of the "bought" fertilizer as well as of that made on the farm—is lost to that crop from being applied too late. Don't wait to apply your dearly-purchased guano in the hill or the drill from fear that, if applied sooner, it will vanish into thin air before the plant needs it.—This is an exploded fallacy. Experience, our best teacher, has demonstrated beyond cavil that stable and commercial manures are most efficacious when used in conjunction. In no other way can they be so intimately intermixed as by plowing them under—the one broadcasted on the other—at an early period of the preparation of the tobacco lot. This second plowing should not be so deep as the first; an average of three to four inches is about the right depth.

IV. Early in May (in the main tobacco belt to which this article chiefly refers, that is to say, between the thirty-fifth and fortieth parallels of north latitude), replot the land to about the depth of the February plowing, and drag and cross-drag, and, if need be, drag it again, until

the soil is brought to the finest possible tilth.—Thus you augment many fold the probabilities of a "stand" on the first planting, and lessen materially the subsequent labor of cultivation. Plant on "lists" (narrow beds made by throwing four furrows together with the mold-board plow) rather than in hills, if for no other reason than that having now, if never before, to pay wages in some shape to labor, whenever and wherever possible horse-power should be substituted for man-power—the plow for the hoe.

V. Plant as early as possible after a continuance of pleasant spring weather is assured. Seek to have a *forward* crop, as the benefits claimed for a late one from the fall dews do not compensate for the many advantages resulting from early maturity. Make it an inflexible rule to plant no tobacco after the 10th of July—we mean, of course, in the tobacco belt we have named. Where one good crop is made from later planting ninety-nine prove utter failures.—Far better *rub out* and *start afresh* the next year. Take pains in transplanting, that little or no replanting may be necessary. The cut-worm being a prime cause of most of the trouble in securing a stand, hunt it assiduously and particularly in the early morning when it can most readily be found.

VI. Keep the grass and weeds down, and the soil loose and mellow by frequent stirring, avoiding as much as possible cutting and tearing the roots of the plant in all stages of its growth, and more especially after *topping*. When at all practicable—and, with the great improvement in cultivators, sweeps and other farm implements, it is oftener practicable than generally supposed—substitute for hand-work in cultivation that of the horse. The difference in cost will tell in the balance-sheet at the close of the operation.

VII. Attend closely to "worming," for on it hinges in no little degree the quality and quantity of tobacco you will have for sale. A worm-eaten crop brings no money. So important is this operation that it may properly claim more than a passing notice. Not only is it the most tedious, the most unremitting and the most expensive operation connected with the production of tobacco, but the necessity for it determines more than all other causes the limit of the crop which in general it has been found possible for a single hand to manage. Therefore bring to your aid every possible adjunct in diminishing the number of worms. Use poison for killing the moth in the manner so frequently described in treatises on tobacco, to wit: by injecting a solution of cobalt or other deadly drug into the flower of the Jamestown or "jimson" weed, (*Datura stramonium*) if necessary planting seeds of the weed for the purpose. Employ at night the flames of lamps, of torches, or of huge bonfires, in which the moth may find a quick and certain death.

In worming, spare those worms found covered with a white film or net-like substance, this being the cocoon producing the ichneumon-fly, an enemy to the worm likely to prove a valuable ally to the planter in his war of extermination.

Turn your flock of turkeys into the tobacco-field, that they, too, may prey upon the pest, and themselves grow fat in so doing.

If these remedies should fail, sprinkle diluted spirits of turpentine over the plants through the rose of watering-pot, a herculean task truly in a large crop, but mere child's play to the hand-picking process, for the one sprinkling suffices to keep off the worms for all time, whereas the hand-picking is a continual round of expensive labor from the appearance of the first worm until the last plant has been carried to the barn. We have no idea that such sprinkling will at all affect the odor or flavor of the tobacco when cured.

If, as stated by a writer in a California paper, the well-known "yellow-jacket" be useful in destroying tobacco-worms, by all means win it as an ally. As proving its usefulness, the writer asserts that one of his neighbors, a Mr. Culp, during fifteen years growing tobacco, has never expended a dollar for labor to destroy the worm, trusting all to this little workman, who, he says, carefully searches the plants for the worms, and never allows one to escape its vigilance.

We cannot speak from our own experience as to many of these suggested means for overcoming the horn-worm, but we have no hesitation in saying to the farmer, try any, try all of them rather than have your crop eaten to shreds and the labor of more than half the year brought to naught in a few days, it may be, by a single "glut" of worms.

VIII. "Prime high and top low." While open to objection in particular cases, even with the character of tobacco chiefly under consideration, and altogether inadmissible, it may be, in the management of other varieties of tobacco, this is a safe rule, we think, to follow in general practice.

We favor "priming" by all means; for when no priming is done the lower leaves (made worthless by constant whipping on the ground) serve only as a harbor for worms, which are the more difficult to find because of the increased burden of stooping. Moreover, if the bottom leaves be saved on the cut stalk, as most likely they will be, there is always the temptation to put them on the market; and against a *sacrilege* like this we are firmly set, let others say and think what they may.

Yet another advantage to be gained by the removal of these bottom leaves, which is what the planter terms "priming," is the increased circulation of air and distribution of light thereby afforded, both essential factors, the merest tyro knows, to the full development of plant life.

"Topping" (the pinching off with the finger-nail the bud at the top of the plant) is an operation requiring considerable skill and judgment. Let it be performed only by hands having these prerequisites.

That as many plants as possible may ripen at the same time (a desideratum not to be undervalued in aiming, as all should, at a *uniform* crop) wait until a large number of plants begin to button before commencing to top. Going about through the crop, topping a plant here and there because it may chance to have buttoned before its fellows, is a damaging process not to be tolerated.

No inflexible rule can be given for the number of leaves that should be left on a plant. All depends upon the variety of tobacco, the strength of the soil, the promise of the particular plant, the probable seasons and time left for ripening, &c.

One of the most successful growers of heavy dark tobacco we have ever known once stated to us his conviction, after years of observation and practice, that one year with another, taking the seasons as they come, eight leaves would give a better result than any other number. Our own experience has tended to confirm this judgment.

IX. See to it that the suckers are promptly removed. It is work quickly done, and with worming may constitute a single operation.

X. We come now to consider the last operation in the field, "cutting" the crop. In this, as in topping, a man of judgment, experience and fidelity is needed. An inexperienced hand, one without judgment, and particularly one who is indifferent to the interests of his employer, will slash away, right and left, not knowing or not caring whether the tobacco he cuts be ripe or green, doing more damage in a few hours than his whole year's wages would compensate for, even could they be garnisheed.

Therefore, be on hand to see for yourself, and do not delegate the duty to any less interested party, that a crop managed well, it may be, so far, from the initial plant-bed, shall not be spoiled in the closing work by an incompetent or unfaithful cutter.

Be there, too, to see, in this supreme hour, that injury from sunburn is warded off by the timely removal, to the shade, of the plants that have been cut, or by a proper covering, where they lie, against the scorching rays of the sun. The neglect of this precaution has played havoc with many a crop when brought under the auctioneer's hammer.

XI. We should have no space to describe the different methods of "curing" tobacco, as, for instance, "sun-curing," "air-curing," "flue-curing," "open-fire-curing," &c., even though the whole subject had not been gone over again and again in previous reports of this department. We can only say of this operation, as of all others connected with the production of tobacco, that much depends on its proper doing, and that, as much as possible, it should have the personal superintendence of the owner.

But the crop may have been brought along successfully even to the completion of this operation and "lack one thing yet," if it be not now properly manipulated.

Therefore, go yourself, brother planter, into your barns, see with your own eyes, and not through the medium of others; handle with your own hands, and *know of a surety* that the tobacco hanging on the tier-poles is in proper order for "striking" and "bulking," and act accordingly.

When, later on, it is being "stripped," "sorted" and tied into bundles, or "hands," as they are often called, be there again, *proprio personâ*, to see that it is properly classed, both as to color and to length, the "lugs" going with lugs, the "short" with short, the "long" with long, &c. Instruct those sorting that when in doubt as to

where a particular leaf should be put to put it at least one grade lower than they had thought of doing. Thus any error will be on the safe side.

Prize in hogsheds to weigh what is usually called for in the market in which you sell, and, above all, "let the tobacco in each hoghead be as near alike as possible, uniform throughout, so that the 'sample,' from whatever point it may be taken, can be relied on as representing the whole hoghead," and that there be left no shadow of suspicion that "nesting" has been attempted, or any dishonest practice even so much as winked at.

We sum up the whole matter by repeating:

1. That overproduction, the production at all, of low-grade tobacco is the chief cause of the present extremely low price of the entire commodity.

2. That the planters of the United States have the remedy in their own hands,—that remedy being the reduction of area, this reduction to result, from the employment of the means here suggested, in increased crops; and, paradoxical as it may seem, these increased crops to bring greatly enhanced values.

The whole world wants good tobacco, and will pay well for it. Scarcely a people on earth seeks poor tobacco or will buy it at any price.

In a word, then, one acre must be made to yield what it has hitherto taken two or three acres to produce; and this double or treble quantity must be made (as, indeed, under good management it could not fail to be) immeasurably superior in quality to that now grown on the greater number of acres.

Either this or the abandonment of the crop altogether—one or the other.

Planters, "Choose ye, this day, whom ye will serve."

Important Invention for the South.

Considerable interest has been manifested of late at the South, by the introduction of a machine called the "Clement Attachment," which it is alleged will enable planters to secure a double profit from their cotton crop. The general theory of it is that it may be attached to the gin in the gin-house and will convert the seed cotton directly into a condition for the manufacturer's use. The seed cotton is said to be cleaned of all dust, grit and much leaf, trash and motes before it is passed to the attachment. The general intention of the attachment is to so modify the plantation gin that it will work in direct connection with the manufacturer's card. Vast consequences are implied in what the attachment assumes to do. The cotton-grower will at once take in the intention, and will await further advices with deep interest. The mission of the alleged improvement is highly important, and every producer will wish that it may prove more definitely than it has up to date to be "as represented."

There has been some doubt thrown upon the full success of the machine, as it was introduced some years ago and then found to be a failure. But it is believed that the difficulties encountered have been now overcome, and the Southern

papers generally appear to be hopeful of its success, and that the results by its introduction will only have been surpassed by the original introduction of the cotton gin.

It is to be hoped that these anticipations may be realized, and, added to the vigorous efforts now being made to establish cotton and wool factories in their midst, the Southern States are destined at no distant day to become the most prosperous section of the country.

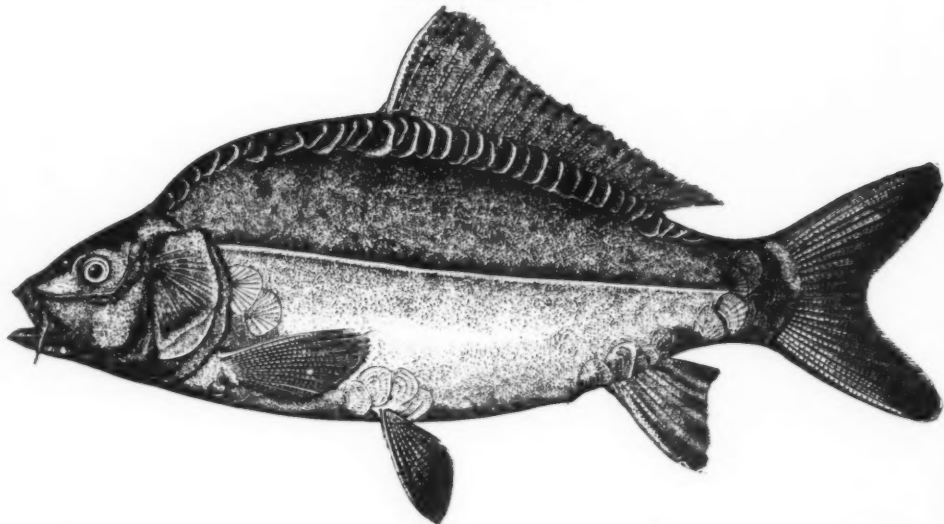
Since the above was prepared, we find in the *Land and Home* of Jan. 22, a communication from E. M. Pendleton, of Atlanta, Ga., a well-known authority at the South, in which he says, that "while the invention may prove a good one, we by no means look for such a remarkable revolution in the movement and manufacture of cotton." He shows that, *properly located and worked*, the net profit of the newly-invented mill would pay; but the cost of these mills would be considerable, and doubtless require the capitalists of the North to take hold of them,—“who will constitute a class of middlemen quite as exacting as the present race of speculators and cotton buyers, so that the farmers will have no advantage under the new arrangement,”—“whilest ‘the cotton gins of the South, in which about \$45,000,000 are invested, are owned mostly by the planters themselves’, and ‘it will take five times as much money to build and put into operation enough of these mills to manufacture all the cotton produced at the South.’”

The American Millers' International Exhibition

Will open at Cincinnati on 31st May, 1880, and continue two weeks. Among the numerous exhibitions which will come off this year none will command greater attention than this. We notice that considerable delegations from milling associations in England, and no doubt from other countries, are being appointed to visit this show, the benefits of which to those particularly engaged in the manufacture of mill machinery, &c., will be of vast benefit to our national interests and open a still wider field abroad for the productions of our country. So well satisfied of this are the citizens of Cincinnati that a fund of \$25,000 has been raised to secure from loss the milling associations under whose auspices the exhibition will be held. We will hereafter give more particulars.

Our agricultural implement-makers will find announced in our Paris letter that there will be held twelve regional shows of their workmanship in France this year, commencing in May and ending at the close of August. Foreigners are invited, and doubtless the most favorable inducements will be tendered. The intended improvement in the system of the agricultural schools of France, and the remarks on the *Phylloxera*, will be found of interest.

European Carp.



We noticed in our December issue that Major Ferguson, Maryland Fish Commissioner, was continuing to distribute this fish, the introduction of which into our waters has been successfully accomplished. Some facts stated by Prof. Baird concerning it were given to the effect that in the Southern States its value as a food fish would be great. We are now permitted, by the courtesy of the *American Agriculturist*, to give an engraving of this fish, and to add the following information as to its habits and value, which that journal presents:

It is, of all fish, the most readily propagated and reared. It has been domesticated in Europe from time immemorial, having been introduced many centuries ago from Central Asia or China, where it is native. Carp soon become tame and eat from the hands of their keeper; Dr. Hessel handles those in the Government ponds as if they were tame kittens, and says that they come to him when he whistles. Their fecundity is great. A fish weighing four or five pounds lays 400,000 to 500,000 or more eggs, and one of ten or fifteen pounds about 1,500,000. In Middle Europe they spawn from May to August, and the breeding season appears to be nearly the same in Washington: in 1879 they spawned here from June to September. The eggs are sticky, and cling to plants and twigs, hatching in from nine to eighteen days, according to temperature. The actual rate of increase is very great, owing in part to the fact that the parents do not devour their young. The 120 fish brought to Washington two years ago have increased to at least 20,000. *It is thus able to populate a body of water to the fullest extent, filling up the available space with their own kind, while carnivorous species require that a large number of other*

fishes on which they may prey inhabit the waters with them. Unlike the majority of American food-fishes, their diet is largely vegetable, and they are particularly fond of water-cresses and other juicy plants. They grow fat upon the algae, commonly called "Frog-spittle," which covers quiet waters. They also devour worms and insect-larvæ, which they root out of the mud, and all kinds of refuse matter, such as the offal of kitchens, slaughter-houses and breweries. By reason of these habits, they are harmless to other fishes inhabiting the same waters. "The food-fish indigenous to the United States," says Prof. Baird, "which has been most widely distributed in the smaller ponds and lakes, is the large-mouthed Black Bass. This fish is very carnivorous, preying upon almost all species in the same waters. Even the Pickerel is said to decrease rapidly when in contact with it. The necessity for fish-food is always a bar to a great increase of numbers among fishes, particularly in small bodies of water." Carp, on the other hand, introduced into new waters, fills a vacancy, and not only do not decrease the number of other fishes, but, by supplying them food, enable the existence of a large additional number of carnivorous fishes.

The Carp is adapted to very varied climates, and will thrive under conditions unfavorable to any equally palatable American fish. They are equally at home in lakes or streams, and in the merest puddles and ditches, and are found in the latitude of St. Petersburg as well as in Italy and Northern Africa. It is believed that they will excel all others for propagation in ponds and other sluggish waters north and south, now either barren of life or inhabited by a limited number of pickerel, cat-fishes or sun-fishes.

It is very hardy in all stages of growth.—"The Carp is able," says Dr. Hessel, "to live in water where other fishes could not possibly exist—for

instance, in the pools of bog-meadows or sloughs," though it is not to be inferred from this that the best Carp-ponds should be thus located. In Silesia, puddles two or three feet deep, in the villages, are used for raising two-year-old Carp for stocking distant waters. From this resource a single estate realized what would amount to about \$55 to the acre of pond surface. In Europe, Carp are always taken to market alive, in tanks or barrels, and, if they are not sold, returned to the water alive at the end of the day. They are said to be kept alive in cellars in the winter, wrapped in wet moss and fed upon bread soaked in milk. Dr. Hessel once kept one this way five weeks. In cold climates they protect themselves from freezing in winter by retiring in groups of 50 to 100 or more into cavities in the muddy bottom called "kettles," where they pass the time until spring, huddled together in concentric circles, with their heads together, the posterior part of the body raised and held immovably, scarcely lifting the gills for breathing and without taking a particle of food. This abstinence and torpidity lasts in cold countries six or even seven months, and thus they can live out a very rigorous winter.

Its growth is very rapid.—Dr. Hessel says that in Central Europe its growth is entirely suspended in the winter, the increase in weight taking place from May to August, and especially in July. The rate of growth depends upon many things—the temperature of the water, the quality and quantity of food, the nature of the bottom. In rivers and lakes they attain the greatest size. The rapidity with which Professor Baird's fish have grown surpasses anything hitherto known, and indicates that the Carp is particularly well adapted to America. The normal weight to which the Carp may attain in three years in Europe is an average of three to three and three-fourths pounds—that is, a fish which has lived two summers, and is eighteen months old, will weigh from two and three-fourths to three and three-fourths pounds in the year following. Dr. Hessel states that the Washington Carp, four summers old, now weigh nine or ten pounds. Those of the same age in Europe would not weigh more than four; those three summers old weigh about three and three-fourths or four pounds, while the best in Europe of the same age weigh about two pounds.

The Peach Crop of 1879.

The Wilmington (Del.) *Evening* thus sums up the peach crop of 1879: by water to Baltimore, 900,000 baskets; by water to New York, 319,000 baskets; by water to Philadelphia, 35,000 baskets; by railroads, 3,307,733 baskets; home consumption, 451,000 baskets; making a grand total of 3,981,233 baskets. From averages from a large number of shippers at different points, it is demonstrated that peaches cleared, after delivery at the depots, about 40 cents per basket, which would appear to show (as the canned and dried fruit paid quite as well as that shipped) that the Peninsula realized from its peaches over \$1,500,000.

Live Stock.

Seasonable Sheep Notes.

The following suggestions of the *National Live-Stock Journal* are timely and useful:

Shelter for Sheep.—Two extremes should be avoided in the matter of shelters. One may be insufficient, while the other may be so close as to be unhealthy. The majority of mistakes are with those who shelter insufficiently. In such instances more food is consumed than would otherwise be required, and no corresponding benefits accrue—though the effects upon the sheep are not so unfavorable as those following confinement to improperly ventilated rooms. Another error is found in too close crowding while under shelter. This is particularly objectionable when any considerable number of animals are confined together. While a portion of them may lie down, others are compelled to stand, and through restlessness or fright often trample upon and injure their fellows. The shelters on the sheep-farm should be made to increase in size as rapidly as the flock multiplies its numbers.

Keep up the Grain Supply.—When grain and hay are bringing good prices in the market, with some promise of still further advancing in values, there is an increasing temptation before the flockmaster to diminish the ration of more valuable food, and seek to make good the deficiency by increasing the supply of less salable products. If his foresight induced such policy at the beginning of the feeding season, and the flock is seemingly doing nicely, this may be well enough, provided all contingencies are carefully guarded against; but nothing could be shortsighted than an attempt to restrict the grain supply in midwinter, no matter what the kind or quantity of less nutritious food that is substituted. The few dollars brought to hand by such policy will be found to have been repaid with usury when the balance-sheet is made up at the close of the succeeding lambing and shearing season. Weak lambs in reduced numbers, light fleeces commanding the minimum price, and general disappointment for the remainder of the year, are the results invited by a diversion of grain from the flock to the broker.

Separation of Flocks.—Ewes in lamb should, as far as practicable, be fed and sheltered separate from the non-breeding animals, as the crowding and more rapid movements of the latter are apt to result injuriously; while such separation makes more convenient certain little attentions to which breeding ewes are entitled as the yearning season approaches, and which may be profitably accorded to them. Advantage will be found in subdivision of the several ages and sexes into as many smaller lots as circumstances will admit of, as such course lessens the liability to crowding and over-feeding of the stronger animals at the expense of the weaker ones. It also brings each animal more directly under the eye of the attendant, who will the more readily detect the first symptoms of deviation from the desired thrift.

Water for Sheep.—The water supply should be carefully looked to. A flock of given number

will drink more water in winter than will be needed when on pasture. If such an arrangement can be economically secured, access to water twice a day is better than but once. This for two reasons: 1st, the more timid animals which are likely to be held back in the morning by their stronger fellows have a chance when the latter are not so eager; and, 2d, all danger from over-drinking of cold water is obviated.—Use of snow in lieu of water should be forced upon the flock only under the extremest necessity. Stock will live under such circumstances, but satisfactory thrift will not be secured.

Winter Calves.

A Wisconsin dairyman asks if there can be any profit in raising late fall or winter calves. This question is now very pertinent, since winter dairying is becoming common. Butter bears a higher price in winter; and this induces dairymen to have their calves dropped in fall. Let us examine the expense account. Some think the cold weather will add much to the cost of keeping the calves; but this is probably a mistake, as the following considerations will show: The milk, after making butter in winter, is in better condition than in summer, as it is seldom sour, and may always be fed sweet. Calves kept in warm quarters will make more growth upon the same quantity of milk in winter than in summer, on account of its better quality, and because, being fed on hay, they seldom scour or have any trouble of stomach.

We have no hesitation in saying that calves, well cared for, will make a better growth on sweet skim-milk and hay in winter, than on sour skim-milk and grass in summer. Then it must be profitable to raise winter calves for beef; for, as we have seen, they will be heavier, and cost no more. And if heifers are raised for the dairy, and come in at two years old, they will cost less raised from fall calves than spring calves; for, in the former case, as we have seen, the first winter costs no more than summer keep, and so there is only the extra cost of one winter before the heifer drops her calf and becomes a producing cow. Most dairymen who believe in full feeding, and, therefore, raise heifers of good growth, also believe in early maternity, that the milking habit may be developed early. The general opinion of the best dairymen is, that a cow, at four years old, will give more milk if she comes in at two than at three years old.—There can, therefore, be no valid objection to raising winter calves where it is found profitable to make winter butter. And this is likely to extend year by year; for the general taste seems to prefer fresh butter to that which has been kept for half a year.

Pleuro-Pneumonia in New Jersey.

Gov. McClellan, in his annual message, says there have been 572 cases of pleuro-pneumonia in the State. Three hundred and fifteen stricken cattle have been killed, and there are now 257 cases on hand. The disease is under control.

The Poultry Yard.

By G. O. BROWN, Montrose Poultry Yards, Brooklandville, Md.

Attending Exhibitions, &c.

Farmers will find it greatly to their advantage to attend some of the regular monthly exhibitions, even if it is a little inconvenient for them to do so. There they will see and hear more in a couple of hours' observation, than they could find out in any other way. They will see a breed of fowls that takes their fancy, and can more readily conclude when they thus see the specimens, that they are of real merit, and will not only prove an attractive acquisition to their stock, but one of practical worth and utility. Should they desire (as the main thing) eggs, he may see the unsurpassed egg-producers in the white and brown Leghorns, the Spanish and the Hamburgs. Should he want a combination, a good egg-producer and table fowl, the odd looking Houdan will fill the bill; but he must remember *none* of the three above named will sit and rear a brood. Then the American Dominique, if he wants a good winter layer, good mother, and not by any means a bad table fowl, he will find to answer. The Plymouth Rock, while it combines all the good qualities of the Dominique, is considerably larger, and a rapid grower. The last few years they have been wonderfully improved. Then of the Asiatics it is an undisputed fact the light Brahmas stand at the head, and the Partridge Cochins next. He must remember they are not the incessant layers of the smaller breeds, but may be styled the Short-Horns or Herefords, while the Leghorns would be in consequence classed the Jerseys.

Knowing these facts, the farmer may attend a regular poultry show, and it will not be necessary for him to believe all the wondrous tales interested exhibitors are always on the alert to pour into his ears; but with the qualities of the several breeds fixed on his mind, he can consult his ideas in choosing a breed that suits his fancy, and *know* what to expect from it. This we consider somewhat essential, as to please the eye and suit the taste is more sure and certain the breed selected will receive better attention.

The question will naturally follow: "Which is best to begin with: purchasing fowls or eggs?" This will somewhat depend upon circumstances, though it must be remembered that *with some breeds*, as they are mated for exhibition purposes, would be worthless for breeding, and in most cases it is best, perhaps, to buy of some reliable breeder, and inform him you want them "*mated for breeding purposes*." It is in no sense economy to buy cheap birds; *good fowls cannot be sold cheap*, only in exceptional cases, where a breeder may be overstocked. Unless you know well the breeder, beware of fowls whose chief merit seems to be their cheapness. If prices seem too high—more than you care to pay—then we should advise purchasing eggs from a reliable man whose stock has a good reputation, and thus begin. That will be the best way, unless, as I have stated, you are willing to pay the price for good stock; for, from an investment of three dollars or so for a setting of eggs,

at least eight chicks will be hatched. I have shipped eggs five hundred miles, and had 12 out of 13 hatch. Poultry rearing, as a part of the farm stock, is sadly neglected; yet, for the investment and necessary labor to insure success, nothing will as soon return an income, or prove a better paying interest than poultry. In this connection, we find in a recent number of the "*Poultry Bulletin*" (N. Y.) an excellent article on

Poultry-Raising.

"Where so many find it difficult to make a mere sufficiency for life's support, it seems unaccountable that the pleasant and profitable business of poultry-raising should be so seldom resorted to for the purpose of gaining a livelihood, and establishing a permanent and paying business, while an eager and struggling crowd are jostling each other in every other avenue of industry, no matter how difficult or how meagre and uncertain the remuneration promised.

Poultry-raising requires but a modicum of real work, with, of course, the regular and ceaseless attention that must be given to any enterprise to ensure success. The risks attending it are not greater than those appertaining to any other business, if as much. *Thoroughness* is the great secret to success. The coops must be kept clean and well ventilated; the chicks must have ample room for exercise, and, to reap the fullest measure of success, be supplied with comfortable, sheltered and sunny quarters. If their quarters must be located on a clayey soil, the ground should be excavated to the depth of a foot and replaced with gravel until a level floor is made a few inches higher than the surrounding ground, as nothing is more conducive of disease than dampness.

If they cannot have the run of a grass plat, green food should be given them daily, and, when practicable, a few feet should be spaded up occasionally, in which they delight to hunt for tit-bits of food. Even in large cities it is not impossible to keep a few of the feathered pets, sufficient to furnish the breakfast table with a delicacy that will harbor none of the distressing doubt that always haunts a market supply, nor any chance of rout and ruin of the appetite that always follows the breaking of an aged one."

District of Columbia Poultry Show.

The second annual exhibition of this association occurred Jan. 19 and 24, and was a decided success. The display in poultry exceeded that of last year, and the birds were also superior. The judges,—Messrs. I. K. Felch, of Mass., and G. O. Brown, of Maryland,—both pronounced the display of Asiatics and Polands as of unusual merit, and equalled by but a few displays of the many they have the present season judged. The Light Brahmas (17 coops) were excellent, not an inferior specimen among them, and the dark Brahmas (9 coops) were a fine class. The Cochins class was a good one, the whites (11 coops) outnumbering the others, (a very rare occurrence,) except the Partridge Cochins, (17

coops,) were not as numerous as last year, but were better specimens. Games (20 coops) were a much larger class, the white Georgian excelling in numbers. White Leghorns not numerous, and the winning birds (only) were of merit. Brown Leghorns only a few coops, and very poor specimens indeed, of this handsome variety. Black Spanish class were small, but birds were all of merit; a pair which arrived too late for competition were by far the best.

The display of Polands was an attractive feature of the show; of the four varieties fifty-odd birds were shown. An attractive feature was the breeding-pens, containing a cock and six hens or pullets. The Polands thus placed in a roomy coop together made a grand appearance, especially the White-crested Blacks. There was over 160 in the Bantam class: many of a high-class nature, the Black Reds leading. Little as they were, they made themselves conspicuous by their incessant crowing and cackling.

The French class (Houdans, Crevecœurs and La Flech) were each represented by excellent specimens. Two breeding pens Houdans containing all good birds. Plymouth Rock were represented by 30 birds, but with the exception of winning birds a meagre lot. The growing popularity of this breed had led us to anticipate a much larger display. Ducks were represented by Cayugas, Rouen and Pekins. There were several coops geese and two of turkeys.

PIGEONS.—The display of Fancy Pigeons was a very rare one. Seventy-odd Fantails were on exhibition, all of wonderful perfection, which of itself was a show. Nearly half the number of Pouters were also shown, among which were birds measuring nineteen inches in length, and of wonderful symmetry.

The exhibit of Antwerps (homing race birds) was a good one, and contained many fine specimens. Special for best collection of Antwerps was awarded Mr. H. F. Whitman, of Baltimore, and the gold medal for largest and best collection was won by Dr. R. H. Evans, of Washington, whose extensive display of Pouters and Fantails we doubt was ever equalled in numbers and excellence by any one exhibitor in any country.

Nearly all known varieties of pigeons were represented. During the show Antwerps were flown (for a medal) from Washington to Baltimore. Three entries were made, the winning birds, owned by F. L. Hooper, making the time (40 miles) in 61 minutes, Mr. Whitman's birds 62 minutes, and Mr. Golding's birds in 63 minutes. An unusual close race.

It is very probable that the American Poultry Association will meet in Washington next season; and should such be the case, next winter's show will be the leading one of the country.

Gapes in Chickens.

At the meeting of the Maryland Academy of Sciences, Otto Lügger read a valuable paper upon "parasites"—that one, especially, which infests the throat of fowls and is known as "gapes." The lecture was illustrated with draw-

ings upon the blackboard, without which much of it cannot be intelligibly reproduced in print; but the subject of gapes is of such great interest, and was so practically handled, that I propose to condense that portion of the essay for the benefit of your readers. The number of parasites in all animals which have been described by naturalists is about 2,500. Of these about thirty, belonging to the several orders of tape-worms, flukes, thorn-headed and round-headed worms, infest poultry in various parts of the body. That which is most fatal to chickens, to young ones especially, is the gape-worm, (*syngamus trachealis*), which adheres to the windpipe. The ravages of this pest often cause the destruction of more than three-fourths of all the young brood and the serious diminution of the farmer's wife's perquisites. When any attempt is made to cure the chicks it is usually the insertion of a horsehair loop, which is seldom efficacious and often hastens death.

This worm (which belongs to the order *nematodes*) has been carefully studied by naturalists, and its organs, mode of propagation and life history are well known. It is of a reddish color, with a smooth skin. The female becomes three-fourths of an inch long and one-sixteenth in diameter; the male is only about one-eighth of an inch in length, and is usually inseparable from the female. A prodigious quantity of eggs is produced, which pass through the intestines of the fowls, and by warmth and moisture are transformed into small thread-like embryos, with an obtuse head and pointed tail. These are picked up by the chickens and adhere to their windpipes, where they mature and finally suffocate the fowls. As soon as ducks and poults are seen to open their mouths wide and gasp for breath, to sneeze and try to swallow, poultry-raisers may be sure the worm is at work. The victim languishes, grows dispirited, and before many days dies. As soon as any symptoms of the disease are observed the sufferers should be removed immediately; and since it is not always practicable to remove the healthy fowls also, the nest-room and roosting-house should have the floors well covered with wood and coal ashes. As the eggs and embryos of the gape-worm are voided by those affected, and picked up by the others, the importance of this precaution is obvious; and for further security against this, as well as other diseases of fowls, the floors should be well cleansed once a week, and a solution of carbolic acid be sprinkled upon them and the roosts as often as twice a month. Another preventive is feeding young chickens twice a week with wheat steeped in a solution of carbolic acid. Have the druggist prepare a mixture, as follows: One grain crystalline carbolic acid; ten drops alcohol; one-half drachm vinegar. A teaspoonful of this mixture to one pint of water will be a proper solution in which to soak the grain. The vessels from which fowls are fed should be frequently cleansed, and they should be supplied with pure water, frequently renewed. Dr. Bartlett, superintendent of the Zoological Society's gardens, uses a weak solution of tobacco, and says the simple application of turpentine to the throat externally is sufficient to kill the worms. This, however, is severe

and dangerous to the fowls. Mr. Montague found an infusion of rue and garlic in the drinking water successful.

The only remedy which Mr. Luggar had found to succeed is carbolic acid, which is effective both as a preventive and a cure, even in far-gone cases. In extreme cases make a brush out of a small quill feather, moisten it with the mixture above recommended, and insert it into the windpipe, gently turning it around once or twice. It will dislodge the worms and bring back many of them. A slow, bungling operation, however, will kill instead of curing the bird, and in view of a careful, tedious nursing the patient will afterwards require, it is hardly worth while, so far as young chicks are concerned, to be at the trouble, still less to remove the worms by incision into the windpipe, which is an instantaneous cure in skillful hands.

Of course, where fowls have large range and free access to pure water they have the best chance for immunity. But as their quarters are usually confined, they must be kept clean, and should sometimes be entirely changed. To this end coops for brooding hens should have no bottoms, and should be frequently moved, especially upon any signs of gapes among the chicks.

Carbolate of lime is useful, sprinkled dry about the chicken-house and yard, and mixed in the whitewash with which the premises ought to be frequently coated. P. G. S.

Remedy for Chicken Cholera.

The following has been tried and found efficacious: Blue mass, 1 oz.; cayenne pepper, 1 oz.; gum camphor, $\frac{1}{2}$ oz.; laudanum, 1 teaspoonful. Mix well, and make into pills of ordinary size and give one every hour till purging ceases. Give a teaspoonful of brandy morning and evening. For drink, take carbolic acid 1 drachm, glycerine 1 oz.; mix thoroughly; add 1 quart of water. Of this mixture take two tablespoonfuls to a gallon of water, allowing no other drink. We give no brandy, nor any of the mixture for drink, the pills alone proving sufficient. H. M.

"The Poultry World" (monthly) and "American Poultry Yard" (weekly) continue to arrive promptly, and are filled with practical information on poultry, interspersed with numerous excellent cuts. During the great Indianapolis show the proprietor of the *World* issued a *Daily World*, which was a great feature of the show. These publications evince wonderful enterprise, and this circulation extends over the whole United States. H. H. Stoddard, editor and proprietor, Hartford, Conn.

"The Poultry Monthly" and "Fancier's Weekly," Albany, N. Y., continue to arrive always a little ahead of time, and their contents continue of the same excellence it started out with. Both are live publications, and well worthy the extended patronage they enjoy. Success seems to have crowned its efforts from the first. Its typography is excellent.



PATTIE MC. 2D, H. R. 5,034.
JERSEY COW, PROPERTY OF WM. S. TAYLOR,
Elms Stock Farm, Burlington, N. J.

Work for the Month—February.

As we advance towards spring and the duties it brings, our interest should be aroused anew, and the work which is to shortly open before us receive our mature and thoughtful attention, that the farm and every field may be given the crop, the manures and the cultivation adapted to its needs and the system pursued. The unusually mild weather has permitted much spring work to be pushed ahead, and the farmer ought to be able to profit by the gain thereby made.

Sowing Clover Seed.—The practice is now common to sow cloverseed in this month. When there is snow on the ground it may be availed of to sow the seed upon. Regularity in distribution is thus gained, and the sinking of the snow as it melts carries the seeds into the fissures and crevices of the earth. When the seed is sown on frozen ground it is covered as the surface thaws, and a needful protection thus given the sprout and young plant. It also starts early under these conditions. When not sown in this way, it is better to wait till the frost is out; then sow and harrow in with a light harrow, and roll. This process not only covers the clover seeds, but improves the wheat. Any roots torn up by the harrow are pressed back by the roller. A bushel of seed is generally used to six or eight acres, but, as a rule, it would be better if more were sown.

Orchard Grass grows steadily in popular estimation. It is preferred to wait later to sow, when it and clover are used together, so that the ground may be harrowed. The seed is light, and some prefer to divide the seed and

sow part in one direction and part in another, harrowing and rolling. When sown with clover, a bushel of orchard-grass seed to 10 lbs. of clover is sufficient for an acre; when sown alone, two bushels is not too much. The heavy growth of this grass, the early bites it gives, its endurance of droughts, its highly nutritious properties, when cut and cured properly, make it justly esteemed as one of the most useful forage plants we have.

Grain fields should be carefully protected from trespass by stock, eager for a bite of green forage; when they are grazed, put it off until the frost is off and the ground drier than now; when the compacting of the soil will be an advantage and not an injury. Stock, too, should be kept from the clover-fields, as otherwise great damage will be done the plants.

Manures and Composts.—Opportunities may offer to haul out your manure and spread it on the ground, and no chance should be lost to increase your supply of materials for the compost heaps.

Tobacco.—The making of tobacco beds is now in order. The best locations are Southern slopes. Northern exposures have some desirable advantages: they are less subject to the fly, will stand drought longer than Southern exposures, consequently will carry the plants over for June planting with a greater certainty. Two hundred pounds of guano is not too much for every square of twenty yards. One large spoonful of seed is amply sufficient for every square of ten yards. Guano of the highest grade should be used, and on the bed, after all the sticks, roots and stumps are removed; and then chopped in lightly; then sow the seed, rake in and tramp or pat with the hoe, and cover thick with pine brush. If necessary, fence at once, on the north and west at least; fence with brush, as a protection from harsh winds.

Live Stock.—Only by untiring vigilance can any breeder or feeder of live stock of any kind ever hope to be successful in his chosen calling. Thus far our winter has been unusually warm, making shelter less important than had it been colder. The many warm, rainy and foggy days have been of great advantage to those who are feeding hogs for the spring markets, as it is always hard to make a young hog lay on fat well in extremely cold weather, even with the best arrangement for keeping them warm and dry. By consulting our almanac we will decide that winter is about half gone by the time this number of the *Farmer* reaches most of its readers. So it would be a good plan to make a careful survey of all the feed still on hand, and see if we are likely to have enough to last us through till grass comes. Remember that we ought always to save the best of the long food for use in spring. Should there be any hay of poor quality, always use it in the coldest weather, as cold will whet the appetites and cause the poor food to be eaten as freely as a much better article would in rainy or warm days. We have often seen stacks of hay more or less injured by rain left to the last; how much better to haul such in and use at once, and save the bottom of the mow for spring; for of course as it was put in first it was the earliest

cut and most desirable for use at home. If there be any food left over it is much better it should be good in quality than to have a poor article, for a poor article scarcely pays for keeping one year, let alone for two years. *Sheep* need more care than usual, as they are so much more apt to be purged in a wet winter than a dry one; at least once a month the flock should be carefully examined, and every one that shows the least "taggy" appearance must be closely trimmed. Should the flock be feeding for sale for mutton, remember that a butcher was never known to pick out a dirty sheep first when looking for a fat mutton. A short time before the lambs are expected it is a good plan to trim the wool from around the udder, being careful not to hurt the ewe, either by running her in, catching or by rough handling, as a little carelessness at this time might cause her to lose her lamb; or, perhaps, worse still, to die herself. The best plan is to have the entire flock in a small pen to avoid running, your assistant to catch and hold each one by the neck, while the "tags" are carefully cut off; then both to take hold and carefully place the ewe on her side and trim from around the udder enough, so that the young lamb can readily find its much-needed nourishment, especially if it be a very cold night, as we all know how much sooner a hungry lamb will die than one well fed.

Every one who raises lambs should have a small and warm pen provided, in which to place the ewes with young lambs till they are a few days old, where they can have an abundance of feed and water and not be disturbed by the flock. It is also a good plan to have some careful person (the owner is a very suitable one) go around with a lantern every night just before bed-time and see if any new lambs have appeared since dark or others require attention. A chilled lamb can often be saved by taking it to the fire and giving a little warm milk, with a teaspoonful of whiskey in it, but do not keep from the dam any longer than can be avoided, as she will sometimes refuse to own her own offspring. In case she does, rub a little salt on, it will often help make her own it.

Cows.—Cows that are expected to be fresh soon must be well cared for and have a warm and roomy stall for a week or two at least before the calf is expected. Should there be a great flow of milk, it is best to milk before the calf is born, and rub the udder carefully with some soft grease. When the udder is hard and stubborn it is best to put two calves on the cow and milk the one whose udder is in good order. If from any reason it is desirable to put a calf on some other rather than its own mother, the best plan is to have the calf hungry at the time and keep the cow busy eating all the time the calf is sucking, and she will soon think as much of the new calf as she did of her own.

Fencing Stuff and Firewood.—Necessary supplies of these ought to be provided before the pressing work of spring begins, and hauled to where they are needed.

Implements.—Look over these, and have any necessary repairs made. Such new machines and tools as will be needed ought to be procured in advance of the time for their use, so that they may be seen to be in complete order.

Orchard and Fruit Garden.

A fine opportunity is afforded by the mild open winter which we are enjoying for all kinds of outdoor operations relating to the proper care of the orchard, at this season to be performed in the best manner. All necessary pruning should not be delayed longer. Trees planted during the past autumn should have attention now in this particular: prune all the side limbs off of peach and cut off the main stem to about the height at which it is desired to form the head—usually about three feet and a half from the ground; but growers differ in their tastes regarding this,—some cutting back to eighteen inches, forming thereby low-headed trees, according to their preference. The only disadvantage in this plan is the increased difficulty incurred thereby in getting close to your trees with horse-labor, while it is claimed by the advocates of the "low-headed" system that such difficulty is more than compensated for by the advantages the low-headed trees afford in gathering the fruit.

The newly-planted apple, pear, &c., should also have all limbs smoothly pruned away up to the point at which it is desired to form the head, and a moderate "heading in" of the remaining limbs will be of benefit in encouraging a more vigorous growth the first season after planting. Orchards of whatever age, if there is any pruning (not trimming) needed, should now be looked after; and if any large wounds are made by the removal of large limbs they should be covered with grafting-wax to exclude air and dampness, and thus avoid decay at such places, which might permanently injure the tree.—Where the orchard is on soil of a heavy or clayey nature, plowing now (if not too wet) will be beneficial to both land and trees, besides saving that much time for the press and hurry incident to spring campaigns. Planting, too, where such is intended, can be done now while the weather is mild and soil in good condition as well as any other time. We have more than once been asked the question, by otherwise intelligent farmers, "if fruit and other trees could not be planted during such open weather in winter just as well as during fall or spring?" And when answered in the affirmative, immediately would follow: "Suppose, though, it should freeze hard soon after planting?" So that trees are not taken up and planted when the weather is freezing—or, in other words, if the trees are carefully planted during mild nice weather in winter—no more injury will be sustained than if the same trees had been planted in the fall, a couple of months sooner.

In the fruit garden *RASPBERRIES* can be clipped back and staked; so also the *BLACKBERRY* can be headed in and all the old last year's wood removed; and both, but more especially the former, will be greatly benefited by a liberal application of fine well-rotted compost. The *STRAWBERRY* bed that was carefully mulched in the fall will require no attention at this time; but if the *GRAPEVINES* are not yet pruned and neatly secured to stakes or trellis, don't wait for a better time, but proceed at once. The old wood of *CURRANT* and *GOOSEBERRY* bushes should be thinned out,—thus giving bet-

ter chance to the younger and more vigorous growth, on which the fruit will be superior to that on the old enfeebled wood. Keep the soil around these fruits well mulched and enriched to obtain good results.

Fruit-growing of all kinds is becoming more systematized as those engaged in it are becoming educated; and while much improvement has been made in the last ten or twelve years, there is still room for greater strides in that direction for the same number of years to come.

Montgomery (Md.) Farmers' Convention.

That these annual meetings grow rather than diminish in favor, was shown by there being present on the 12th ultimo at that of this year (the eighth) a larger attendance of the farmers of Montgomery and the adjacent counties than at any preceding one. A number of subjects treated were of local interest only, and are passed over in our report. Henry C. Hallowell was the chairman of the day, and Allen Farquhar and Chas. F. Kirk, secretaries.

Mr. Hallowell in calling the meeting to order said, man must rust unless he mingles with those in the same walks of life. Ministers, lawyers, physicians, and men of other callings, all have their associations and times of meeting for interchange of thoughts and experiences. But the farmer, the leader as to numbers and importance, has few such appointments, and hence the importance of availing of such as are offered by our county fairs, the granges, and assemblages like these. Especially do such meetings bring to us an appreciation of the dignity, the value, of our occupation. Let us feel that the man who does not respect himself does not command the respect of others.

Various topics were then discussed, not of general interest to our readers, such as the R. R. crossings in the county, the impositions practiced upon farmers in the markets of Washington, reform in county administration and taxes.

Mr. Barnsley's statement of the weight and management of his hogs was read, and Mr. Farquhar's report of the dates on which he has gathered his ice for many years past. (Both these papers are given herewith.)

The usual summaries of the proceedings of the several clubs of the county were then read, it being stated that the Dairymen's Association had failed to hold its last two quarterly meetings on account of bad weather.

The reports of the Sandy Spring and Montgomery clubs are given further on.

The discussion of the appointed questions was then in order.

How Deep Should Sod Land be Plowed for Corn, and When?

Asa Stabler favored plowing as deep as we have good soil. A soil plowed six inches deep will raise more corn than if you plow it seven. Does not think 10-inch plowing practicable for farmers who are getting their living out of the earth.

James S. Hallowell does not see the object of plowing 10 inches when 8 answers as well; wouldn't have his soil plowed 10 inches deep if it was done for nothing.

Amos Holland plows in winter and goes 10 inches, and as deep as he can put the plow.

John R. Clark, of Howard, believes depth of plowing should be regulated by the depth of soil—6 to 8 inches in his county. A few subsoil, but it has been pretty much abandoned, though some still follow the plow with the subsoiler.

J. Claggett Holland plows about 6 inches. Tries to go one-half to 1 inch deeper each time, thus gradually increasing the depth of soil.

Wm. John Thomas plows shallow for corn, not going to depth of soil, but keeping near the surface. In New Jersey 5 inches makes more corn even in fertile soils. This is also his experience. Plows corn ground the middle of May. Pastures till then; manures with barnyard manure. The crop requires best cultivation. He makes generally 11 to 13 bbls. by allowing the grass to grow.

R. B. Farquhar had found roots of corn one and a half feet long, and in digging for foundations found clover roots 2 to 3 feet.

Benj. H. Miller.—It is to our advantage to have our soils deeper than at present, and the proper time to deepen them is when plowing in fall and winter for corn, going a little deeper each year into the subsoil. It does not affect the corn and makes that much more of a reservoir for moisture. We can plow now much easier 8 and 9 inches than we used to plow 5 and 6. Believes it better to have a good loose soil 10 inches deep than one of 6. If all conditions are favorable, would leave sod land till first or middle of May, heavily coat with manure, and plant immediately after plowing; but, to avoid delays by drought, liable to occur at planting time, plows in winter.

G. M. Search endorsed the views of Mr. Miller. Prefers to plow in spring, but practices plowing in winter.

Chas. Stabler prefers plowing all his corn land after middle of May, but cannot risk it. Plows about half in winter.

Geo. L. Stabler said the feeding roots of corn are near the surface; the tap-roots going deeper are for support. An experiment was made by him in planting potatoes, where the ground was plowed 10 inches and subsoiled, but a strip left which was not subsoiled gave the best crop that time, and there has been no difference seen since.

A vote being taken it was unanimous for plowing deeper than 6 inches, and a majority favored spring plowing.

The other questions were delayed to take up that concerning county taxation, and a lengthy debate ensued as to the benefits which had arisen from the agitation of reform in county affairs, which began in that convention last year. It was voted that the movement had been beneficial, and the convention endorsed the resolution passed by the county meeting last summer, and appointed a committee to so advise the representatives of the county in the Legislature.

So much time was given to the subject of taxation that there was not time remaining before dark to go into a discussion of the remaining questions, and some were merely put to a vote, and others deferred.

Why are not more Sheep kept? Because of dogs. What is the best breed with which to improve the common stock of sheep? Cotswold. Does it pay to raise pork at 5 cents per lb., and is it profitable to keep hogs over winter? It was thought not to pay at less than 6 cents, and that spring pigs were most profitable.

Is a Farmers' Hotel and market in Washington a necessity? Referred to next year.

What is the least size of a farm on which it pays the manager better to superintend than to labor himself; and what constitutes a successful farmer? Referred to next year.

So great animation was exhibited at this meeting that it was determined next year, in order to give more time for the proceedings, to open at 10 o'clock A. M. instead of 1:30 P. M.

During the afternoon, Professor Grabowskii, of the Maryland Agricultural College, was introduced to the convention, and gave a very rose-colored account of the work which the institution intends doing; but in reply to a question, he admitted that most of the practical part of the teachings of agriculture at the College is a thing of the future. The Professor has but recently assumed the chair of agriculture.

Abstract of Proceedings of the Farmers' Club of Sandy Spring for the year 1879.

And still the old club holds its own. Thanks to the benign influence of the life which farmers lead, we have been able and willing to attend our club meetings with gratifying regularity. Of the 16 composing our body, there has been during the year an average attendance of between 13 and 14 members; and had it not been for the long-continued illness of one amongst us the average absence at each meeting would amount only to about one and a half persons.

Every year gives us added proofs that the life and business upon which our lot was cast is "the most wholesome for body and mind, most free from temptation, and productive of the quiet domestic virtues which give to a people solid rank among nations," and, what is much better, solid comfort at home.

Some of those fine lines are quoted from a recent issue of one of the great newspapers published in New York, and they are introduced in order to draw your attention to some other patronizing remarks from the same source. They are extracted from that one of the three or four greatest newspapers of the country which has professed from its origin to pay the most attention and respect to the farming interest.

The article referred to tells us, after mentioning that 29 billions of dollars have passed through the clearing-house the present year, that "the year 1879 will, however, be remembered in future as that in which the attention of the country was, for the first time, directed to its farming interests as a subject of paramount importance."

This is remarkable indeed.

Benjamin Franklin tells us—and there is no better authority on any subject—that, in his time, five-sixths of the people were engaged in agricultural business.

Now that was the time when the people he refers to had just gained their independence

after a hard struggle with the greatest nation of the world, and by their wisdom and exalted genius had laid the solid foundation of a country which was to be the refuge of the teeming human race. It seems strange to say that the "year 1879 is to be remembered in future as that in which the attention of the country was, for the first time, directed to its farming interests." We should suppose those five-sixths of a people had attracted some attention before.

However, this way of talking of country people is just in keeping with the fashions of the city. Well, let them talk—patronizingly or contemptuously; we care as much for one as the other. We know (and they know, too, when they come to think about it,) where they would be if it wasn't for us. Burns says some sharp things on this head; but I shan't quote him. We must come down to more solid subjects—those on which depend the very life of all that breathe.

Examination of the statistics shows a large yield—in some cases among the largest hitherto made, and most valuable in the market when rendered into real and not inflated money.

As relates to the special work done by our club I have told you how faithful has been the attendance at the meetings, and that, together with these statistics, ought to be enough of itself to prove that there must have been many useful improvements, or at least confirmation of wise old practice.

A few of these I select from the many recorded by our efficient secretary:

I. **TILLAGE.**—Among the new improvements (?) is the practice lately pursued by many of our members to *pasture* the mowing fields well into the spring and leaving the grass to recuperate by the time for mowing.

The opinion has become general not to plow corn ground intended for wheat unless in extreme cases of weeds and rubbish. The successful potato-growers give two seasons for planting: one about 10th of April; the other 10th of June, though I note one opinion, which appears to have been approved, that 5th July is not too late.

It is recommended to cut *clover* when in proper condition, although the timothy, or whatever other grass there may be in the field, is unripe.

Of hay or wheat, if you can only stack one of them, 10 members say stack the hay, and 7 say wheat.

II. **OF STOCK.**—Can any other club but ours boast of a bull of 2,000 lbs. weight and of Princess or Ducal parentage?

The horns of cattle pronounced of no use.

The pleasant face of a sheep showing through a cylinder of thick soft wool is pronounced the prettiest thing about a stock farm.

The broken leg of a ram recovered perfectly. In a flock of calves the blooded ones exhibited evident superiority.

Salting straw for cattle approved.

No use to try to doctor sheep.

The subject of stanchions excites considerable animation; but members unite on their advantage in feeding and milking, but some protest against the cruelty of constant confinement.

Members were startled at seeing a colt apparently at death's door, from last year's visit, now restored to perfect health and beauty.

III. FERTILIZERS.—About 400 lbs. for wheat is the general application.

Old mortar said to be good.

Lime is being extensively used. The best opinion agrees in the propriety of applying it on the surface as soon as slaked. Also, the majority still prefer applying all manures to the surface and keeping it there some interval before plowing.

IV. OF CROPS.—Black-eyed peas (so called) getting into use for turning under. Put one bushel per acre, last of May.

Many other practical suggestions of this sort were collected, but Club No. 1 has taken up its share of time.

Montgomery Club.

The year of 1879 has, on the whole, been a prosperous one for the members of the Montgomery Club.

The winter was not severe, and, although the spring was rather late, the cattle came out of winter quarters in about as good order as usual.

The dry spring retarded the corn and hay crops to some extent, but the former rallied during the summer (thanks to good showers) and made a good average crop. What the latter lacked in quantity it made up in quality, as the hay of this season is far better than what we have had for the last few years. The drought did not appear to affect the wheat crop to any extent, and good yields were realized.

During harvest the weather was perfect, enabling the farmer to save his crops in good order and without loss. The oat crop is not much of an item, as few of our club think it pays. The late potatoes made good yields; the season for planting was excellent, and they came up very well, which was not the case with the early plantings. The summer season seemed particularly to suit them, with its intermingling of good rains and not too hot weather. The pest, the Colorado beetle, was on hand, as usual, in full force, but succumbed to its fatal enemy, Paris green. A sister, cousin or aunt of the foregoing made its appearance in the shape of a long striped bug, which caused a good deal of uneasiness for a while, but it was found not to be very formidable.

The dairies, notwithstanding the extremely low prices in the spring and summer, have been going ahead in their usual energetic manner, and are now reaping their reward in the good demand and price of their productions.

The fattening of cattle was not found very profitable last winter, on account of the low price of beef; and this winter, on account of the high price of feed, few are going into it, thinking it will pay better to sell their hay and corn at the present price than to feed. The markets for hay, wheat, corn, oats, pork, sheep, wool and dairy products have advanced very much over those of last year and the year before, but potatoes seem to be at a standstill for some unaccountable reason.

The meetings of the club have been very well attended and a good deal of interest shown by the members. Several excellent essays have been prepared and read by them, some of which have been published for the benefit of the public in general and the Enterprise Club in particular. The members of the above club have attended our meetings regularly when invited, and have shown great eagerness in the pursuit of knowledge; and I can say, without boasting, that we have patiently given them a great deal of good advice, and we are really encouraged in believing that they have profited by it.

In looking over the minutes of the club for the last year, the following items have been gleaned:

In January, during the exceeding cold weather, the club lost about 300 bushels of potatoes by freezing. The wages of farm hands were reduced from \$1 to \$2 for monthly, and 10 cents per day for day hands. Post and rail fencing is preferred, where you have all the material to buy.

The Peerless potato is considered the variety for the main crop.

There was some excitement in the spring from a rumor that pleuro-pneumonia was around, but upon investigation only one herd was affected, from which it did not spread.

The Syracuse plow is preferred to any other, after which the Oliver Chilled.

Eight dollars per acre for grubbing rough ground is considered a fair price.

To cut, maul, hew and bore white-oak posts, is worth 11 cents per post. Mauld white-oak posts are worth 7½ cents each.

A large amount of corn-stubble was sown in field pea this spring and turned under for wheat, several experiments last year proving that it was the proper way to redeem worn-out land. An essay upon the subject, by B. D. Palmer, published in the county papers and *American Farmer*, is well worth reading.

Harvest wages this year were \$1 for wheat, 75 cents for hay.

Fultz wheat is the favorite variety for sowing, making a heavier yield and bringing more per bushel than the Boughton.

The set of grass on this year's stubble-field is not good, on account of the dry spring and early summer.

A subject for grave consideration, in the opinion of our club, is to find out some sure way of eradicating what is getting to be the scourge of our neighborhood, hog thistle. In some places it overruns whole fields. Plowing under does no good; salt does not affect it, and no remedy has been found for it. I would suggest that a committee be appointed by the convention to take this matter in hand and report at our next meeting.

The club of our fathers, we understand, has pursued the even tenor of its way until last meeting, when, to our great astonishment, we hear that it has driven out of its accustomed ruts; and not being content at arriving at their firesides by sundown, as of yore, they have agreed to follow the footsteps of their children and grandchildren in continuing their feasts of (shall I say, reason?) until the late hours of the night, and will, therefore, hold their meetings

the Saturday on or before the full moon. I wish to say that there is not even a hint intended of second childhood or anything of that sort. In speaking of the prosperity of our club for the past year, I will mention that which has given our bachelors the most satisfaction and hope: it is that two of them (I will not say the most venerable) have gone to that bourne whence no bachelor returns, which leaves our club evenly divided—eight married and eight happy and contented!

The following is the crop report:

Crop Report.

Staples.	No. of rep.	No. of acres.	Amount of crop.	Average per acre.	Largest average.
Wheat ...	15	384	8,072 bus.	2 1/2 bus.	32 1/2 bus.
Corn	12	384	2,721 bris.	7 1-11 bris.	9 1/2 bris.
Oats	5	54	1,525 bus.	28 1/2 bus.	31 1/2 bus.
Rye	12	61 1/2	6,875 bus.	123 1/2 bus.	250 1/2 bus.
Potatoes...	12	335	482 tons.	1 1-17 bus.	1 1-9 tons.
Hay	13				

2 members report	878 gals. of cream.
14 " "	36 131 lbs. pork.
7 " "	14,532 lbs. butter
3 " "	2,000 boxes peaches.
5 " "	\$377.50 pigs sold.
4 " "	\$956.92 sheep, lambs and wool.
4 " "	36 bris. apples, 46 bris. cider.
9 " "	\$1,485 cattle and calves sold, profit.

HENRY H. MILLER.

R. B. Farquhar on Ice.

As the unusually mild weather this winter has prevented getting our ice for the summer, and caused us to feel anxious about the chances for so doing this late in the season, I thought it would be interesting to those present to make a statement of the dates on which I have filled my house in the last 20 years, though as I have always left everything to secure it the first freeze it does not tell how often it would have been possible to get it after the present date, January 12th. I find, however, we had weather certainly cold enough to get ice after this date in all but two or three years:

December.	January.	February.
December 22, 1862.	January 3, 1860.	February 23, 1870.
December 23, 1863.	January 14, 1861.	5 1/2 loads, which
December 24, 1864.	January 4, 1864.	lasted through
December 14, 1868.	January 8, 1866.	harvest.
December 24, 1870.	January 7, 1867.	February 5, 1853.
December 8, 1871.	January 13, 1868.	got a few loads
December 13, 1872.	January 17, 1871.	to fill up house.
December 20, 1875.	January 11, 1875.	
December 11, 1876.	January 7, 1878.	
December 24, 1878.		

10 years before and 10 after New Year and 4 years after January 12th.

The mercury after this date has indicated the following low temperatures:

February 8, 1861, zero—January 29, 1865, 6°—February 13 and 14, 1865, 0°—February 4, 1866, 12°—February 16, 1866, 3°—January 30, 1867, 2°—January 31, 1868, 7 below zero—February 2, 1868, 2 below zero—February 4, 1868, 4 below zero—February 8, 1868, 11 below zero—March

7, 1869, 12°—February 21, 1870, 8°—February 6, 1871, 8°—January 30 and 31, 1872, 7° and 4°—February 1, 1872, 2 below zero—January 30, 1873, 20 below zero—February 24, 1873, 3°—March 4 and 5, 1873, 4° to 6°—January 17, 1874, 2—February 8, 9 and 10, fine sleighing—January 20, 1875, 6°—February 9, 1875, 8°—February 17, 1875, 2°—January 26, 1877, sleighing—February 20, 1879, sleighing.

According to this statement there are strong reasons for believing we will yet have an opportunity for filling our ice-houses; and everyone that wishes to do so should have everything ready to make a vigorous work of it if opportunity does offer.

R. B. FARQUHAR.

Fattening Hogs.

Mr. James F. Barnsley presented a paper giving weight and treatment of his hogs. The average of 16 that were 15 months old was 301 1/2 lbs., of 8 that were 10 months old 208 lbs., and of the whole lot, whose average age was 13 1/2 months, 273 1/2 lbs.

Breed.—Common stock crossed with Berkshire.

Range.—30 acres of pasture, with cattle and horses. After harvest ranged over 80 acres of wheat and oats stubble. Ranged over 75 acres while fattening. Had rings in their noses from weaning time.

Shelter.—Not sheltered or penned. Had free access to a straw rack, winter and summer.

Water.—Had plenty of spring and running water.

Feed.—Till 1st of May, 1 ear of corn each night and morning. From 1st of May to August, 2 ears in the morning only. Began with new corn 10th of September. To fatten, fed for 8 weeks and used 50 bbls. of short corn. Had slop morning and night, the year round. No meal or mill feed used.

The Gunpowder Farmers' Club

met January 24, at the residence of Abram C. Scott, all the members present save one. The committee of inspection found buildings, fields and stock in good order. The wheat fields were green as if it were spring-time, looking healthy and of a good color. Farm machines were seen thoroughly sheltered; and by the side of a new mower and drill was a Wood's reaper, which, after fourteen years' service, did as good work as ever last harvest. Mr. Scott belongs to that class of farmers who, having stuck to their farms and looked closely after their business, can now look around and view with complacency the accumulations of a laborious, perhaps, but well-spent and useful life.

This being the annual meeting of the year, considerable time was consumed in the election of officers and committees, and the readings, which were a part of the programme, were necessarily postponed.

The subject of the inspection and weighing of hay and other farm products, by State officers, was discussed at some length, and it was resolved, as the sense of the club, that all such inspections should be abolished, and weighing be thrown open to private competitors for the business.

A committee on an Agricultural Experiment Station was enlarged and continued, with full authority to bring the matter before the Legislature by memorial or otherwise, and to submit the draft of a bill if it was judged advisable. The committee consists of Messrs. B. McL. Hardisty, Jno. D. Matthews, John Crowther, Jr., Col. W. S. Franklin, D. Gorsuch, and Nelson Miles.

Half Hour for Questions.

Are potatoes good for seed after sprouting much, if the sprouts are rubbed off? Ed. Scott prefers not to use them, but sees little difference; Jno. D. Matthews objects to buying them when sprouted. The first and most available nourishment goes to the sprout, and when it is rubbed off that is lost. How can you keep Early Rose potatoes from sprouting? B. McL. Hardisty—Bury them in the earth out-doors. J. Crowther asked D. Gorsuch how his potatoes, barreled in the fall, were keeping? a. Very well.

A considerable variety of practice was established by the discussion of a question by D. Gorsuch, as to the best way to cut off corn and seed the shock rows. There is a great difference of opinion, and he has tried several ways and none satisfactory. Next year he will cut wide, and leave one row only. He seeds only his corn ground. B. McL. H.—Outside of the inconvenience of old ways of seeding rows in oats, what is gained by seeding shock rows to wheat? D. G.—I never approved seeding to oats. J. C.—It is very inconvenient cutting with machines. E. S. cuts wide, and seeds shock rows to oats.

J. D. M.—Will it injure potato-seed to be put in immediate contact with hen-manure in the drills? A. C. Scott—Would be afraid of it, unless used very light. J. D. M.—Last year, the only good potatoes he had were grown in drills, in which hen-manure was put, and on it, with no covering whatever, the seed was dropped. The potatoes were very fine and the yield large. Got more from the ground thus treated than from four times as much where barn-yard manure was applied. The hen-manure had been kept in barrels and was a little damp. Plaster had been mixed with it daily. Dr. M. Merryman—Would not the plaster change the caustic effect of the hen-manure? J. D. M.—Perhaps; he had come to the conclusion this was the best use he ever put hen-manure to, and if it will do as well in other soils it should be tried.

Dr. M. asked as to the wisdom of using superphosphate after lime? J. D. M.—The best results he has ever had was when lime was spread in March and April on corn ground, which was seeded that fall to wheat with the fertilizer. The manufacturer of the fertilizer advised against it, but the yield was heavy, 25 bushels to the acre, and where no fertilizer was

applied it did not reach three. The lime seemed to stimulate the superphosphate into action.

Dr. M.—Doesn't the opinion generally prevail that lime diminishes the effect of superphosphates applied subsequently. J. D. M.—That opinion seems to prevail.

D. G.—My experience coincides with J. D. M's. A plot of land, which had been limed, had superphosphate applied by a mistake, and the wheat thereon was very superior.

The subject of lightning-rods coming up, the general view of the members rather favored their disuse; so great are the uncertainties of their effectiveness and liability to derangement, notwithstanding the numerous eloquent traveling agents "abroad in the land."

Deer Creek Farmers' Club.

"What is the Best System of Farming?"

The Deer Creek Farmers' Club met at the farm of Mr. R. John Rogers, near Bel Air, on the 24th instant, and gave their opinions and experience as to the best system of farming with a view to profit and increasing the productiveness of the farm; and from the *Aegis*, to whose editor we are indebted for an advance proof of this report, we give the following:

Mr. Rogers remarked that so much had already been said upon the subject that nothing new remained. He thought that a proper system of rotation, the raising of crops which pay best and a liberal disposition to fertilize properly, constituted the main grounds for success in farming. As little working stock as possible should be kept, especially horses. An idle horse in the stable is a continual loss. A great many farmers keep too much capital invested in horses. He finds most profit in cattle and wheat. They always bring cash. Besides, cattle convert a great deal of rough food into manure. He was not inclined to raise much hay, and thought pasturing would improve the land more than cutting hay.

James Lee said he agreed with Mr. Rogers about keeping as few horses as possible, and also as to wheat and cattle being more profitable than anything else. He believed in fertilizing heavily for wheat. When he does that he raises a heavy crop. Last year his yield was 42 bushels and for three years the average has been 40 bushels per acre. His plan is to plow clover sod and use 800 lbs. of bone to the acre. A little bone will not pay as well in proportion as a large quantity. A heavy application leaves the ground in much better condition for grass, and the increase in the crop of wheat will pay for the fertilizer. He applies 400 lbs. broadcast in August, and generally drills in 400 lbs. to the acre with the wheat. On stalk ground he drills in 400 to 500 lbs. to the acre with the wheat. There is a great profit in feeding cattle, besides the improvement to the land. His experience was that a field pastured every year would improve without any top dressing.

S. B. Silver said the main point in farming was to make the land produce, and he thought top dressing the proper way to apply most manures,

even bone. To make a profit after the land is in condition grazing cattle or sheep, according to the quality of the land, is the proper thing to do. Light land should not be grazed with sheep. Would apply manure on sod the year before plowing for corn. Sod land plowed once should be replowed so as to leave the sod on top. He had had no experience in applying bone dust to grass, but believed the result would be good. If he had 100 acres of good land that would raise a heavy sod, he would not keep cattle, but would keep sheep. If situated three miles from a railroad would go into the dairy business. There is more money in cows than in any other stock. On a small place there is more money in sheep. They only require feeding $2\frac{1}{2}$ or 3 months of the year. From 250 ewes \$1,000 a year can be made, and one man can attend to 300 sheep. It requires 70 or 75 acres of land to graze 250 sheep, and the land would improve so that in a few years it would sustain 300. Where too many sheep are kept the land deteriorates. They should not be allowed to graze the land too closely. On large farms mixed husbandry would be best—cattle, sheep, and large crops of wheat. There is no money in corn. By means of clover and top-dressing a farm will grow rich sooner than by any other process.

George E. Silver said he believed in rotation of crops, and in keeping cattle and sheep. Land should be well manured and sufficient stock kept to turn all the rough food into manure. He would also apply fertilizers, such as bone, &c. His method is to plow sod for corn, and generally puts corn in the second year, then seeds to wheat. He has discarded oats. Instead of putting in corn the second year, would prefer wheat, but that is not always convenient. If he succeeds in getting a good catch of grass, he lets it lay for 15 years. It is better to sow clover, because it lightens up the ground and is better for stock, except horses, and especially valuable for sheep. He regarded one ton of clover better than a ton and a-half of timothy. He sows clover after wheat and then seeds to wheat and then to permanent pasture of mixed grasses. He did not think that farmers should always follow in old ruts, but if they could find anything that would pay better they should follow it. In our county the canning of fruit had grown to be an extensive business. Tobacco raising is also something that our farmers will all be interested in. We can raise as good tobacco and get as good price for it as the farmers of Lancaster county, Pa. He had tried, as an experiment, one acre of tobacco, and sold therefrom 1,160 lbs., at $7\frac{1}{2}$ cents per lb., realizing \$87. That was a small yield compared with Lancaster county. One man there had raised on four acres 2,500 lbs. per acre. His tobacco was sold at an average of 25 cents per lb., making him \$600 per acre. A profit of \$250 to \$300 an acre was common. Some of the members suggested that where such crops were raised the tobacco patch was fed with manure, while the rest of the farm deteriorated. Mr. Silver thought that was not the case. Sod land was plowed for corn, which was followed with tobacco, and the tobacco with wheat. No manure is applied for wheat, but it is used for the tobacco.

A. M. Fulford said the best method of farming depended upon the location and the character of the soil, and one set rule would not cover every case. Near a city, where the dairy business can be prosecuted, that would pay best, but at a remote distance raising diversified crops, and using the produce on the place in order to save hauling, would be better. Success depends on the manner of farming, doing everything promptly and thoroughly; on high manuring, so as to raise on one acre what others raise on two. Attention to tools and all the minutiae of farming is very important. All that can be reduced in expenses goes to the side of profit.

Jas. H. Ball thought that at our distance from a railroad it is bad policy to do much hauling. Farmers should not keep too much team. There is more money in sheep and cattle than in wheat raising. Wheat brings ready money, it is true, but it costs labor and fertilizers to raise and prepare it for market. A member of the club once remarked that to improve lands farmers should burn their plows and spread the ashes. John Quincy Adams is credited with saying that the agricultural wealth of England is on foot, while grain growing countries became poor. That is true of all sections. Feeding cattle tends more to the wealth of the land and the farmer than too much cropping. He had seen it stated that years before bone was used here, English farmers had used it to supply the waste from milk, beef &c. Applying it to grass he thought the true plan here. It is doubtful whether beef can be produced economically without bone to supply phosphates which are continually drawn from the soil. Probably the reason why beef can be produced with profit in this section is because the land has been boned for other crops.

John Moores said he supposed the man who makes the most money out of his farm is the one who is thought to be improving it most rapidly. Last year he sold \$700 worth of hay from 25 acres. What other crop would have made that much out of the same land, unless it was tobacco? In this country we must practice mixed husbandry to improve the land, or it will become poor. Grazing cattle, raising wheat, using plenty of bone dust to improve the land, and live economically is the right plan. It may be profitable some years to raise hay and some years to graze cattle. It is better to have a little of both. For the last 20 years hay has paid. One year he sold \$1,000 worth of hay from ten acres. Very fine bone applied to a good thick sod will improve it, but if the bone is coarse no good effect can be seen. Coarse bone will not decompose on the surface.

Benjamin Silver thought hay and wheat the most profitable crops. He did not believe in grazing, except to rest the land. Would buy cattle two-thirds fat, keep them all winter to eat the rough food and make manure, and sell them in the spring. It takes three acres of grass to fatten a steer, besides the feed they eat, and the net profit is never over \$30. Three acres of grass will cut seven tons of hay, worth at least \$100. In Lancaster county, Pa., where they have the best farms in the United States, they keep only a few cows. Wheat is a certain crop,

year in and year out. Hay is the best paying crop we can raise.

Wm. Munnikhuyzen said he only knew one system of farming and there was no profit in it.

Bennett H. Barnes was of the opinion that there is more money in wheat and cattle than anything else. He would not graze, but feed during the winter. There is no profit in hay, because it takes an extra amount of team and costs considerably to harvest and get it to market. He would only cut enough to feed the cattle.

James W. Hanna said he had been farming all his life and only made something to eat and a little to wear. Last year he had a large crop of corn. A portion of the field was dressed with stable manure a year before it was plowed and the remainder just before plowing. No difference could be seen in the crop. On one-half of the field bone was applied, at the rate of 400 lbs. in the hill. No difference in favor of that portion could be seen except for a short time after the corn came up, when it looked greener than the other.

George W. Grant said that year after year, hay sold at from \$12 to \$15 a ton, will pay as well as anything that can be raised. The average in Harford county he thought was two tons per acre. You can haul two tons at a load, and get \$40 for it. A load of wheat will scarcely ever realize so much and the expense of raising it is greater.

A discussion took place as to the cost of harvesting hay. Mr. Benjamin Silver thought it could be placed in the mow for 50 cents a ton, if a man worked his ordinary farm hands and his own team. Mr. Grant concurred in this estimate. Mr. Grant also thought farmers should raise oats. A crop of oats can be raised without interfering with the corn and hay crops, and all that is realized from the oats will be clear profit.

Wm. F. Hays said he endeavored to follow a rotation of crops that would improve the land and make as much money as possible. Never cuts any more hay than he wants for his cattle, because he does not think it profitable to haul away the farm by the load. To make money out of land it must be improved. You must not haul the crops away, but drive them off in the shape of beef. Clearing up swamps, ditching and grubbing he believed in also. As to applying bone dust on grass, Mr. Wm. Woolsey had told him to apply it with manure. He had spread it with manure, and bone dust and manure separately on grass. Where the two were mixed he was satisfied it paid three-fold as compared with the results from each separately.

Mr. Moores said the best plan is to sow the bone-dust in the barn-yard with the manure.

Thomas Lochary said the improvement of the land should be the first consideration. The increased amount of grain that bone or manure will make is not all the advantage, but the increased amount of fodder and straw produced to make manure to go back on the land should also be taken into account. The best seed should be selected and the best stock to raise from. There is no money in pasturing cattle unless a steer can be fattened on less than two acres. He believed in keeping sheep, hogs and

cattle, but would rather cut hay than depend upon fattening cattle on grass. It only occupies the land two months to make hay. Cattle may be pastured on a field until near the first of June, and then a good crop of hay be cut. It may be pastured again after the hay is cut. In August it will dry up, and the cattle might as well eat it.

The President, R. Harris Archer, said he had changed his opinion in regard to raising hay—he would not make it the exclusive crop, but would make it one of the moneyed crops of the farm. A great deal of land is only fit for pasturing. Upon that he would fatten cattle. He approved of diversified farming and would not sell any corn from the place, but would put it in cattle. He would always have a field of good timothy-hay on the place to cut for hay.

Mr. Rogers said, in conclusion, that \$10 made from cattle is better than \$20 made out of hay, taking into consideration the advantage to the land from grazing cattle and the smaller team required. Last year he bought cattle at \$19 a head and made \$19 profit. His neighbor, Mr. Moores, had done even better than that. His cattle did not see the inside of a stable.

The committee of inspection, consisting of Messrs. Moores, Ball and Lochary, reported, complimenting Mr. Rogers on the appearance of his farm, which showed that everything was done in the best manner, evidencing a farmer's care, in season. In fact he might be considered one of the model farmers. Mr. Rogers has only four horses, one of them too old to be of much service, which the committee thought a remarkable small number with which to work 200 acres of land. Mr. Rogers keeps no oxen, and had done all his plowing with three horses, using an Oliver Chilled plow.

The club adjourned to meet at Mr. Wm. Munnikhuyzen's, on the 21st of February. The subject for discussion will be: "What is the best stock to raise with a view to profit and increasing the productiveness of the farm."

Lincoln (Loudoun Co., Va.) Farmers' Club

Met January 10, at farm of O. T. Holmes, whose live-stock is spoken of by the *Telephone* as of fine quality, "due doubtless to good judgment in buying, care in keeping and the general advantages of a good stock farm." After inspection of the farm and farm animals the club discussed the question: whether it is better to plow sod-land in fall or spring for corn:

O. T. Holmes.—This depends very much on the formation of the soil to be plowed; if loose sandy soil I would plow in the spring; but stiff clay works better if plowed in fall or winter. I prefer to plow on this farm in spring—don't care how late; but other land that I have worked in Loudoun, I found best results from plowing in fall—it is always so with clay soil.

S. N. Brown.—I endorse what Mr. O. T. Holmes has said.

Tho's Smith.—Taking Loudoun in general, plow in fall or winter, especially where it is

clay soil, unless you want to keep the sod for pasture. Also early plowing makes the crop less liable to cut worms. This is an important consideration. In Carroll Co., Md., they don't expect a full crop unless they plow in fall or winter. As for manure, you can haul for a month yet and then plow.

Amos Hughes.—I am not fully decided which pays the best. If you plow as soon as frost is out in spring, think that as good as any time. As to worms, no trouble if you don't put off plowing till the grass starts. Last year I plowed in spring and had no worms. I favor plowing early in spring.

Henry Smith.—I try to get my ground plowed about the first of May.

Hugh R. Holmes.—I would plow so that the ground would be frozen afterwards, on account of worms. Prefer to plow later than this date, rather than earlier. Ordinary season I would plow last of February or first of March; but considering the present condition of this season, it is hardly to be expected that we can plow at that time this year, on account of freezing; therefore better plow now than run the risk.

At this juncture Mr. James McDaniel (visitor) rather amused the club by stating: "the later I plow, the later I plant; and the more cut worms I have, the better crop I get." He claimed that it is good for the crop to have some corn coming on later. This threw the club off the question and they proceeded to discuss corn.

J. M. Hoge.—To replant corn is probably an advantage to the crop; for in case the falling pollen of the first planting does not completely fertilize the silk, the falling of that from the replanting will probably make up the deficiency.

S. N. Brown.—I don't think so. You may plant a field of corn regularly and you will find from two to three weeks difference in its maturing.

E. P. Wilson.—I believe that the more regular everything is the better for the crop. Some farmers in the West won't replant. If the stand is not sufficiently good they furrow out and plant again. Replanted corn is liable to mould in the shock or in the crib. There is, however, some profit in replanting, but not so much as in a good original stand. I never saw replant as good as first; it can't catch up! Don't have much faith in the pollen theory advanced by J. M. Hoge. Nature controls all those things—the tassel will fertilize its own silk, especially so in a field where it is so generally blown about.

O. T. Holmes.—I read of a farmer who always replanted every 50th hill.

H. Smith.—A great farmer in Illinois is said to replant every 20th row.

H. R. Holmes.—Considering the condition of our corn at one time last summer, on account of drouth, it was truly wonderful the way it rallied and made such a fine crop. I consider it a matter of great credit to Loudoun soil.

The club then discussed the best plows to use, the debate evoking, as usual, a variety of opinions.

PEANUTS.—The Jackson (N. C.) Reporter says: Dr. H. V. Dunstan, of Windsor, cultivated one acre in peanuts and gathered 178 bushels. Who can beat it?

Influence of the Sire.

I have just finished reading a very interesting article by Mr. E. C. Legg, of Kent Island. In the latter part of his article he quotes the very common theory, that is: "Where the dam is bred for the first time to a cross, all her subsequent offspring will partake of the nature of the first sire." In the spring of 1863 I bought a Spanish jack and at the same time a well-bred stallion; they were both used for breeding to a considerable extent in this vicinity. It was the custom when I was in that line for farmers to breed to the jack or horse just as seemed to suit the time. There has never been one instance where the mare failed to breed to the horse just as well after having a mule colt as she had done before. We can show some as fine half Percheron horses as any ordinary farmer would wish to have, whose dam had bred one or two mules before, and not the least trace of the mule in disposition or appearance. I would be very sorry to have a thoroughbred cow served by a scrub bull, only on account of the loss of time, not that I think she would be the least injured for future breeding. Would be very glad if others who can give positive information on this very important branch of breeding would let us have the benefit of their knowledge and not keep the "light under a bushel." On one occasion I bought a Berkshire boar from one of our most celebrated breeders; after keeping the pig long enough to find that his nose was the only part of him that would develop in proportion to the feed he consumed, allowed him to serve a few of my sows; out of all I raised more than half had the well-developed nose that came from the long pedigree that I had to pay for. Had the pigs taken after the first sire that had been used on my sows they would have given satisfaction; this is another case of positive evidence against the old theory of the offspring being affected by a previous sire. Yours truly, THOS. J. LEA.

Montgomery Co., Md., 1880.

RESOLUTE, No. 26, Prince George's Co., held a meeting at the house of Sister M. Kennedy, on Saturday, January 10th. The officers for 1880, elected at the last meeting in December, were duly installed into their respective chairs, by W. P. M. of Resolute Grange, Wm. Snowden, assisted by Sister Mary L. Steiger.

Other business having been previously disposed of the doors were opened to visitors, who, with a goodly number of Patrons, witnessed, apparently with much gratification, the impressive ceremony, after which all were invited to partake of a most enjoyable collation.

Resolute Grange may, I think, be said to be in a thoroughly healthful condition, its members deeply interested in the work of the order, and full of an earnest purpose to perform their own portion thereof. There were steps taken at this meeting which, it is confidently expected, will not only deepen the reawakened interest of its present members, but will also lead to an increase of membership.

A list of the newly elected officers having been reported to the State Grange, which will undoubtedly find its way to the Farmer, I will omit a repetition of them. H. S., Sec'y.

Horticulture.

Position, Training and Manuring of Orchard Trees.

Messrs. Editors American Farmer :

The position and training of orchard trees is important, and should vary somewhat according to climate. In the eastern portions of Virginia and States farther South the trunks of apple trees are very liable to *sunscauld* when not protected by the branches or by boards, viz: the bark is scorched and dried on the portion exposed to the direct rays of the sun. Trees are frequently careened to the N. E. by the S. W. or prevailing winds, which adds much to their injury from exposure to heat and the drying about their roots from the noon and evening sun. Trees thus scalded soon become wormy in the injured parts, growth is checked, and decline, decay and death is the ultimate result.

REMEDIES.—First, as to position.—In the regions to which we have alluded the position of trees, especially the apple, should, when practicable, have a northern or northwestern exposure. Next, as to training, the heads should be sufficiently low to screen the stems from the direct solar rays. In furtherance of this, Southern orchardists, in transplanting, slightly incline the stems to the southwest. This is an advantage in two respects: first, the S. W. winds are apt to permanently incline the trees to the N. E., which this in some degree prevents; and, secondly, the rays of the sun have less power on the exposed trunks. But the main dependence should be in judicious pruning and training, allowing the branches to cover the otherwise exposed portions of the trunks. This precludes cultivation with the plow immediately under the roots, but it aids in the retention of moisture; and the use of the spading-fork is much more efficient and safe *under the trees* than the plow.

It is necessary in Southern latitudes to avoid to some extent heating manures. A cool regimen should go with a cool location, especially as it regards the winter fruit of the South. The apple here is especially impatient of heat and drought.

The soil for young orchard trees should be good and kept good; and the manures for promoting growth should be abundantly applied and accessible to the roots at all seasons. This may be done during annual cultivation with hoed crops, or when the trees alone are cultivated.

For the first year a corn crop is believed to be very advantageous in most sections of our country, as the shade afforded during the heat and drought of our summers is, doubtless, beneficial and grateful to the newly-planted young trees.

After the trees have attained age and size proper for bearing, wood ashes or lime, or both, should be freely applied; but no heating or stimulating manures are necessary. These, in connection with litter, swamp muck, clay and the like, are suitable for all light soils. For stiff clayey soils, sandy loam, leaf mold, vegetable refuse or well-rotted barn-yard manure may

be used evenly spread and plowed under during winter with advantage. Lime or wood ashes, or both, with litter, leaf mold, &c., are proper for all orchard soils in all climates where there is a deficiency of these calcined and calcareous substances. J. FITZ.

Kewick Depot, Albemarle Co., Va.

The Rationale of Pear Blight.

Messrs. Editors American Farmer :

On the shores of the Severn, near Annapolis, the pear seems indigenous, and in other parts of the State the most exquisite fruit, both as to appearance and flavor, have resulted from its cultivation; but some of the most luscious varieties have disappeared, which were in perfection forty years ago. During more than fifty years I have observed two pear trees in this "hundred" which still survive, though more than five hundred have perished in the same neighborhood, though receiving the best cultivation, also carbonate of lime, &c. "*pro re nata*;" as indicated by experts and the best authority. The former survive, but hardly a vestige of the latter remain or have survived one decade. Though they embraced a dozen varieties—and one-half of these were standard trees, maturing with remarkable luxuriance and perfect symmetry—their fate is the same. One crop is the signal for the attack of blight. Some "shy bearers," such as the Lawrence, were supposed to be invulnerable, but these, when grafted with the Elizabeth, (which were sent in a letter from Mr. Sam'l Earle, of Queen Anne's Co.,) also succumbed. The latter made a most extraordinary growth thereon, and yielded one crop of beautiful fruit. One of the two pear trees referred to above was planted more than fifty years ago; it had attained the height of thirty feet and bore profusely every year. After docking ten feet of the main stem, several varieties were inserted at intervals, after discovering the success of a Bartlett thereon. These blighted after a luxuriant growth, though surrounded with suckers and the rest of the tree which escaped. This is the common hedge or "choke pear," and was tolerated in the garden because it had been planted by an only son of the widow who owned it, and he died in 1826. The other specimen of longevity in pear trees was, at that time, double the height ever attained by this, and may have existed in the same place for a century. It then bore profusely, and now manifests no symptom of decay that I have noticed. The pears are green and about the size of lemons, but pear-shaped, and thus contrast with the other. The above facts suggest and sustain the Rationale of the Pear Blight and its analogy with what in man and the lower animals is called dry gangrene, where the extremities shrivel and decay without any apparent cause, but a mere contraction of the vessels that supply them with nourishment; in other words, their limbs die from strangulation. Precisely so we see the branch of a pear tree die, though loaded with fruit, if the blight which we refer to attacks the stem and it contracts as usual on one or both sides.

Ergot or spurred rye (*Secale cornutum*) is a fungus product like that which transforms much of the Indian corn (*Zea mays*) into huge puff-balls. This is smut or the same black powder which occupies the kernels of wheat, converting the grain into puff-balls without altering their size or shape.

Rust* seems to be more closely allied to that variety which produces the ergot, if we may judge from its effects, viz: the rust causes the grain of the wheat to shrivel, though it never appears in or on the grain, but on the leaves; so also the ergot causes the legs of chickens to shrivel when they are fed on rye containing this fungus; it seems to contract the blood vessels precisely on the same principle that opium contracts and belladonna expands the pupils of the eye, though put in the stomach or any other part of the system. Medical men who understand this as a physiological and not a mere mechanical effect (such as farmers attribute to the rust when they view it as a parasite,) merely growing like mould at the expense of the sap which should nourish the kernels of wheat. These do not use the ergot empirically, as it was formerly used, but extract its essential principle, called ergotin, and arrest hemorrhage in every part of the body by the specific influence which it exerts in contracting the blood vessels of the weakest or most relaxed part, though it is absorbed at some remote place. It is then demonstrated and universally admitted, that not only chicks and wheat, but men and all other animals, with a few exceptions, die of dry gangrene, which shrivels their extremities, if they are fed on rye which contains ergot; if so, it seems evident that pear blight is ergotism, as we see the most luxuriant and prolific branches aborted as to their fruit at every stage of progress, and the tree, however luxuriant, seems generally fortified until it has expended its vitality in producing one crop of choice pears.

Some animals are exempt; so also goats may eat the poisonous jimson weed (*Stramonium datura* or Jamestown weed.)

Some men are not affected by poison oak, (*Rhus toxicodendron*), while in most persons every capillary seems relaxed soon after a leaf touches the body or its odor is inhaled in passing the vine at certain seasons. Moreover, some of these capillaries do not regain their normal calibre, but, on the contrary, expand into little bladders of serum, called vesicular eruption. As the cure of this is indicated by recognizing its cause, and the remedy is not only useless, but mischievous, unless applied at the right time, so also as to the pear blight. Another brief essay may be required to show why some trees (such as the hedge or choke pear) is invulnerable; why the best varieties on some soil invariably succumb, and the reason for the delay of their destruction until their perfect maturity, while "suckers" and young trees sometimes shrivel.

Delaware.

DAVID STEWART, M. D.

*NOTE.—A crop of wheat was actually threshed and then tilted into a creek near Annapolis, but the spores of smut also travel from the manure through the tubes of the wheat, as those of the mold plant fill through an egg-shell, and grow at the expense of the egg before the egg is broken. At the instance of the late Jno. Ridout, of Annapolis, I wrote an essay as to the cause and cure of smut, which was published in the *New York Observer* about the year 1860.

D. S.

The Levy Peach.

Messrs. Editors American Farmer:

I have seen in several journals some thoughts of Mr. Bateham's about late peaches. It is very clear that he has not seen or heard of that truly late peach, the Levy Winter, for he does not get any farther down than Ward's Late.

The Levy is the latest peach known, and has always been exhibited at our Potomac Fruit-Growers' meetings in November. It is a very large, beautiful and fine-flavored yellow cling, and picked before the advent of severe frosts will keep till December. It is first-class in every respect, and a great acquisition for the middle and Southern States, as it will be in market when all other peaches are gone. Every peach would sell for 5 to 10 cents. It is just splendid also for preserving.

I hope fruit-growers will look into the matter. D. M. Dewey, Rochester, N. Y., was so much pleased with the fruit he had a lithographic plate made of it, and will send copies (in colors) to any address enclosing 20 cents. This picture will give you a good idea of the peach, for it is not exaggerated.

I again repeat the hope that our peach-growers will investigate the matter, and I invite the press to make mention of the Levy.

Very truly, G. F. NEEDHAM.

Washington, D. C., Dec. 24, 1879.

New Small Fruits.

Messrs. Editors American Farmer:

Among the new Strawberries, the Sharpless is one of the most remarkable ever introduced. The plants form very large stools; the leaves are enormous; fruit from large to very large, borne on thick, long stalks. This strawberry, I think, will be very popular, like the Monarch, and even more so.

Among the new grapes the Brighton, as a table-grape, has proved very satisfactory with me the past two seasons. Its fine flavor, handsome size and color will help to make it a first-class market grape. The Elvira has fully come up to its reputation; it bore an enormous crop with me the past season. On four-year old vines, from four to six bunches on a branch, of young growth, is the rule. The bunches are so compact, and the berries so close together, that there is no room for expansion, which causes some of the berries to burst open when near ripe, after having rains. This is the only fault I have with it. So far the plant is a healthy and strong grower, and the roots have a great reproductive power, which make it a first-class variety to graft on for Europe.

Sometime this coming season we will be able to report of its qualities as a wine grape. The Lady Grape is undoubtedly the earliest grape out, but it has not proved very productive with me yet.

Among the raspberries the Ganargua and Rochelle proved to be the same. As a market berry they are perfectly worthless; the color is such as to resemble stale Black-caps, and I was unable to sell them; otherwise the berry is large and juicy, the plant a strong grower and hardy and very productive. JOHN COOK.

Breisgau Fruit Farm, Baltimore Co.

Pleasure Grounds and Greenhouse. February, 1880.

By W. D. BRACKENRIDGE, Florist and Nurseryman,
Govanstown, Baltimore Co., Md.

Pleasure Grounds.

We continue, from last month's number, to descant further on desirable herbaceous plants suitable for the adornment of our flower-gardens; but we find that such objects are very numerous, therefore we will confine ourselves to those that are showy and of easy culture.

The first that captivates our thoughts is the *Achillea Ptarmica* flore-pleno, whose neat small double-white flowers form a great boon to bouquet-makers in hot weather of summer, where flowers of that character are scarce. The *A. Millefolium* flore-rubro, or red-flowered Yarrow, or Sneezewort, is a neat plant both in foliage and flower. The *A. filipendula* is a stronger grower, with flowers of a lemon-yellow color.

A small genus of plant very attractive in their deep-green punnatisif spring leaves is *Acanthus*, known among gardeners as Bear's Breech. The flowers are produced in terminating spikes, and the species number from 8 to 10.

Some of the varieties of *Antirrhinum majus*, or Snap-Dragon, are remarkably beautiful for the delicate markings of their spiked flowers. These fine varieties are the result of the manipulation of the florist, and are well worthy the attention of those having a soil that is light and dry. The genus *Linaria*, or Toad-Flax, is closely related to the last, and although many of the kinds are showy and worthy of a place, yet some, however pretty their flowers may be, have proved worthless weeds: as for instance the *L. vulgaris*, known in some places as Butter and Eggs. It should be kept in check by farmers and gardeners.

The Campanula, or Bell Flower, has representations that are of great value to the gardener. Among the notable ones among them we single out as very desirable the *C. Mediana*, or Canterbury Bell, though a biennial and requiring a partial protection from severe frosts. Both the purple and white varieties can hardly be eclipsed, when grown in a rich border, by any plant with which we are acquainted.

C. Pyramidalis—both blue and white kinds—come into requisition, when grown in pots, for the decoration of halls and temperate plant-houses; but two of the best we know for the garden border are the *C. grandiflora* and *C. persicifolia*, each of which have varieties which produce double flowers, purple, blue and white. All of them furnish excellent material for the making up of flower-baskets and bouquets. There is also a yellow-flowered kind, which we had the satisfaction of seeing in flower on the island of Madeira.

Dicentra cucullaria, or Dutchman's Breeches, is perhaps more singular than pretty; but its twin sister, *D. spectabilis*, or Bleeding Heart, is perhaps one of those floral gems that attracts more attention than any other hardy plant we know. Its finely-cut foliage and gracefully-

curved flower spikes are quite unique in their way.

The Cardinal flower, *Lobelia cardinalis*, demands more attention by cultivators. It will thrive in almost any soil that is moist, and its intensely red flowers, which last for a long time, are very beautiful; but unfortunately the plant is too easily obtained,—being very plentiful in our mud creeks and ditches. Had it to be imported at a high price we would prize it more. Sometimes a white flowered variety of it is to be met with.

Another species of the *L. Syphilitica*, also a native of our State, with blue flowers, and found to inhabit similar locations, should not be overlooked. My experience has proved it will accommodate itself better to dryer localities than the *L. Cardinalis*.

Those who are fond of blue flowers will find their taste in this respect gratified by cultivating various species of *Veronica*; they are all easily grown and multiply rapidly. The most showy species we have seen is the *V. satureiifolia*.

The *Plumbago Larpentæ*, with intensely dark-blue flowers, was once considered tender; but now found to stand our winters with impunity. It holds its ground well, if used as an edging around a bed or border.

And as other individuals whose flowers partake of the above color, we name the *Polemonium coeruleum*, Greek Valerian; *Mertensia Virginica*, Virginia Cowslip, and different species of *Gentiana*, as *G. crinita*, *G. quinqueflora*, *G. saponaria* and *G. augustifolia*.

We have still encumbering our mind a long list of highly beautiful flowering herbaceous plants on which our space will not permit us to dilate. However, we will enumerate a few of them, viz: *Lathyrus grandiflorus*, (particularly the white kind,) *Asclepias incarnata* and *A. tuberosa*, *Digitalis purpurea* and its many varieties, *Farfugium grande*, *Papaver orientale* and *P. bracteatum*. The *Lychnis Chalcedonicum*, with its gaudy double scarlet or white flowers. This, with the *Valerian dioica*, are perhaps two of the most common plants to be found in our small country gardens, and often have as their companion the *Saponaria officinalis*, known as Bouncing Bet. This, when not kept under control, proves to be a bad weed.

The following, though bulbous-rooted, strictly belong to the class of plants about which we have said so much, viz: *Crocus*, *Snow Drops*, *Narcissus* or *Daffodils*, as well as *Tulips*, *Hycinths* and *Crown Imperial Lilies*. The three first are our harbingers of spring, and when peeping through the ground reminds the horticulturist of many duties now necessary to be attended to.

In the December number of last year we gave our reasons for advocating the larger introduction of herbaceous plants into our gardens; and to assist in this laudable object we hope the foregoing list may be found useful. And an additional motive for taking it up at all is that they afford to the cultivator a great diversity of both foliage and flower; and when these fade and die down, with very little care they will return to you in spring. And, farther, if a proper selection is made, some kinds may be had in

flower during the four seasons of the year; and as a general thing they multiply rapidly, so that duplicates can be had to be used in exchange for other kinds, or be presented to a friend.

Towards the middle of the month prepare a hot-bed of leaves and stable manure, and after the heat is up and becomes steady, cover the surface of the bed to the depth of 6 to 8 inches with some light earth,—in this can be sown seeds of hardy annual plants. This bed can also serve the purpose of rooting cuttings of Geraniums, Roses and many other articles of which a stock may be wanted. And to keep this bed in good lasting condition, the sash ought to be covered with mats at night. Many persons lose their plants in such beds, after they have got above ground, by not admitting enough of air in fine weather.

All pruning of trees and shrubs should be attended to when the weather is favorable. And the making of roads, walks and laying down of drains is work that ought to be pushed forward under all favorable circumstances that present themselves, so as to prevent it interfering with the usual spring work.

Every cultivator of trees and flowers should collect and lay together a good pile of leaves and vegetable garbage; this should be turned over frequently, until it becomes a nice friable mass of vegetable mould, which can be used in planting and top-dressing flower-beds, &c.

Greenhouse.

Those who have a large stock of Gloxinias, Achimenes and Gesnerias, would do well to repot and start into growth a portion of their stock, and the remainder later in the season, thus insuring a succession of bloom. The warmest part in the house should be selected in which to start this dormant stock.

Clerodendrons, Allamandas, and plants of a similar character, should now be cut back and repotted, observing to give water moderately, until such times as the plants begin to grow. It is also a proper time to put Fuchsias through the same process, so as to get young wood for cuttings, as young plants of this tribe give more satisfaction under our climate, when kept constantly growing, than old stocks.

Coleus, when propagated in spring, make much the best plants for bedding out, than do those struck in the fall; neither is it good to have large Geranium plants for that purpose.

The so-called Verbena rust does not appear to be so prevalent in collections this winter as formerly. We hope that this rust wave has about passed over, and be no longer looked upon as endemic.

Many Ferns go into a state of rest during the winter; and these, when they begin to start again, should be repotted into fresh earth—that recommended by "An Old Fogey," in our last month's number, is very suitable. Ferns may be propagated by viviparous buds, springing from the points or sinuities of the fronds; also by divisions of the root stock. The free-growing kinds grow freely from spores, if placed in a moist, warm, partially shaded place, and careful looking after just about the time the first fronds begin to make their appearance. We feel confident that we were the first to raise Ferns from

spores in the United States, and this was in Philadelphia in 1837.

The Passion Flower.

The first sight of a Passion Flower, says *Vick's Magazine*, is like a new revelation. It is apparently quite unlike any other blossom one has seen, and has peculiarities that do not agree with our previously-formed ideas of the possi-



bility of a flower; the mind must take time to consider the peculiarities of the different parts and arrange their relations. Its beauty is of the highest order, combining that of form, of color harmoniously blended and of motion, as the numerous filaments tremble with every breath of air.—The name given to this plant is derived from the fanciful idea of the likeness of the parts of the flower to the instruments of Christ's torture: the three pistils are compared to the three nails that fastened

the hands and feet; the five stamens represent the five wounds in hands, feet and side; the rows of filaments form the crown of thorns; and the five sepals and petals are ten of the disciples,—the other two, Peter and Judas, being absent, as Judas has come to his death by his own hands, and Peter is absent from fear and shame. In the engraving our draughtsman has, no doubt, become convinced of the thorough repentance of Peter, for he has made an extra petal, showing eleven in the two rows instead of ten, which is the proper number.

The plant requires a light soft soil and fresh repotting whenever started into new growth. In Virginia and Kentucky and Southward there is a very handsome native species, the edible fruit of which is called Maypos. In our greenhouse are cultivated quite a number of kinds, producing most beautiful flowers. The one shown in the engraving is a Brazilian species, *Passiflora carulea*, better adapted than any other, on account of its hardiness for house culture, especially by those making a first attempt. The leaves are five-pointed; the corolla is nearly white; the crown, composed of the filaments, is purplish at the base, pale blue at the middle and a brighter blue at the extremity.

Notes on Orchids.

Messrs. Editors American Farmer:

I know that many amateurs who succeed admirably with plants are deterred from attempting the cultivation of Orchids, from the idea prevailing that they can only be grown in houses especially adapted to their needs. This idea ought to be pretty well exploded,—thanks to some recent writers, and particularly to

Capt. Snow, who, from his travels and experience, has had an excellent opportunity of ascertaining the wants of the various members of this beautiful and curious family.

I propose to speak of a few Orchids that may be grown in a house with a temperature ranging from 45° at night to 65° or 70° on bright days, knowing that the amateur who succeeds with them will not be satisfied until he has found others that can be managed with equal pleasure and success. No class of plants require less handling than Orchids after they are properly established, and to those who may be induced to try their cultivation, I would say get plants that are well established, and strong enough to bloom; as the small plants usually sold require years to attain sufficient strength to flower, and most people are apt to get disgusted while waiting for the reward of their care, and abandon Orchid culture, while the fault is not with the plants, but with the owner, who made a mistake at the start. I do not intend to mention the scarce and high-priced varieties, but simply a few well-known and reliable sorts that may be obtained at moderate rates. *Dendrobium*, from *Dendron*, a tree, and *bios*, life, indicating their epiphytal character. *D. nobile*, one of the gems of this genus, native of China, with purple and white flowers, usually referred to the stove, but I am convinced may be grown in the temperature above mentioned if proper advantage be taken of the seasons. That is, kept dormant during winter, when it should bloom say in March, after which the new growth begins, when it should be stimulated by frequent watering, until the growth is completed; then placed in a dry, cool situation to ripen its pseudo-bulbs, until the flower buds appear like warts, opposite their alternate leaves, when they may be moderately watered again. They may be grown either in hanging baskets or pots, although I prefer the latter, as their habit is rather stiff for baskets. They should be potted in coarse peat and sphagnum moss, and the pots half filled with pot shreds, or pots made for Orchids, perforated with holes, may be used. In either case good drainage must be provided, as Orchids will not bear stagnant water at the roots. Many fail with Orchids, from keeping them continually soaked with water; they like a moist atmosphere when growing, but not too much applied moisture.

Lycaste Skinneri.—This Orchid delights in a cool temperature, and when in bloom is one of the most pleasing, lasting a long time. It may be potted the same as *Dendrobium*, but must be well raised above the rim of the pot, and kept as cool as possible during the summer months; requires plenty of water during the growing season, and even when at rest should not be allowed to become quite dry.

Odontoglossum grande, like the above, is a native of Guatemala, and requires the same treatment. Its flowers are borne on an upright spike, lip white and purple, while the sepals and petals are mottled and striped with brown and yellow.

Laelia anceps, native of Mexico, with flowers three to four inches across, lip purple, sepals and petals rosy lilac, very handsome, and lasts

four weeks in flower. Treatment same as for *Lycaste*, but may be kept warmer in summer.

Terrestrial Orchids.

Phaius grandifolius, better known as *Bletia Tankervillea*, Native of China, and a long time in cultivation, has been commonly named the Nun plant from the peculiar formation of the column, which resemble a hooded nun. We have a plant now showing 12 spikes of bloom. It is a strong grower and gross feeder, and succeeds well potted in a mixture of fibrous loam, well-rotted cow manure not broken too fine, with a little sharp sand mixed through it. It requires plenty of water when growing, and even when dormant should receive a little occasionally.

Cypripedium insigne, or Venus' Slipper, native of Nepal, of the easiest culture, should be potted in coarse peat, and never allowed to become quite dry. Flowers last two months in perfection if kept cool.

Cypripedium venustum, a species with pretty dark mottled foliage, is a nice companion plant for the above.

This list might be lengthened indefinitely, but as my object is merely to try to induce amateurs to make a beginning, I have only named a few that I am sure anyone can grow who tries.

Patterson Park, Jan. 26, 1880. W. FRASER.

Hortus Hamptonensis.

Celery.

Messrs. Editors American Farmer:

Your intelligent correspondent, Mr. Watson, seems to be in tribulation about celery. My experience in the cultivation of this indispensable but costly crop has led me to a different conclusion from that formed by him. I have satisfied myself that for our latitude the culture of celery in beds, as usually practiced around Baltimore, is the best and least laborious method of getting a supply. We can certainly get more from the same area than we can in single rows, and when the celery is earthed up and covered for the winter there is an end of it. I have grown celery in trenches and on the surface in single rows as practiced at the North; in past years as many as 25,000 plants in a season. If grown in single rows on the surface it must be at least half earthed up in order to get it in proper shape for storing for winter use. To half earth up a single row standing alone will require fully as much labor as to entirely earth up the same number of heads grown in beds. This I have tested to my satisfaction. Then this celery must be lifted and stored in trenches for the winter, which involves an additional heavy job. Celery which is lifted and trenched is now, to my taste, as good as that which remains where it grew. We can get larger stalks in single rows, but mine in beds is as large as I care for.

We have been using celery this season, ever since October 15th, out of beds. Now, to earth up celery in single rows so as to have it ready for such early use would involve more labor than I can spare for it. I commenced years ago with growing celery in the old-style

trenches; then I twice sunk beds, then single rows on the surface, and finally beds on the surface; and until I find some better way shall continue so to grow it.

Rotation of Garden Crops.

How few gardeners "take time by the forelock" and map out their crops as suggested last month by Mr. Watson, and how few get as much from their ground as they should. I have often been surprised at the short-sighted practice in some of the market gardens that have come under my notice around Baltimore. I know some market gardens close upon the city limits on land which is certainly worth not less than \$2,000 per acre, where the crop of early cabbages, planted in autumn and cut in June, is followed by nothing until time to prepare it for cabbage again. No rotation seems to be practiced, and the land intended for celery is kept idle the whole early part of the summer; and I have seen land kept bare (except of weeds) until July and then planted in corn for late roasting ears. How more cultivating this high-priced land can make anything with such slack cultivation is beyond my comprehension. In my practice I always endeavor to get such things as require the whole season in a quarter together, and the whole of the remaining land is planted in early stuff, depending on vacancies made by the removal of early crops for places for later vegetables. The celery crop, for instance, I never like to plant on land that has just been manured previous to planting; but prefer to manure very heavily in early spring and take off a crop of lettuce and radishes, which mature so soon that I can have time to plow and harrow the land two or three times after they are off before the celery has to be planted. The manure is thus fully incorporated and the land in fine tilth. And here let me say a word in reference to the preparation of celery plants: I find it is labor well spent to transplant all of my celery plants in May into beds, in rows a foot apart and three inches between the plants, at the same time cutting off the tap roots and part of the tops. Plants treated thus lift with a mass of earth, which insures their living when finally planted out, and the even stand of plants well repays the extra labor.

Pear Blight.

I have long held the opinion that the blight on pear trees is caused by deep cultivation among the trees at a season when they are in the most rapid growth,—thus cutting the roots and checking the flow of sap to the branches. Each season's experience and observation confirms me in this belief. In our kitchen garden here we have a great many pear trees. The soil between these trees is heavily manured and cultivated in vegetables. These trees blight badly. We have also a goodly number of trees standing in sod that has not been plowed within the memory of anyone living. The grass is cut with the lawn mowers and lies where cut. No one has ever seen blight on these trees. The trees in the vegetable ground grow more vigorously, but the rank growth produced by the manure is suddenly checked by the snapping of the roots, and blight frequently takes place

within a few hours after a thorough cultivation. I am satisfied that the true way to grow pears in our tropical summer climate is to keep the roots in a cool sod, manure the sod and keep the grass constantly cut short, but not removed. Young trees I would mulch for three feet each side of the stem and cultivate the remaining space for two seasons and then sow in Kentucky blue grass as heavily as for a lawn, and keep them in grass. I have never yet seen a blighted tree that was properly kept in grass.

Balto. Co., Md.

W. F. MASSEY.

Vegetable Garden.

Mr. Massey's article in the January No. contained some valuable hints which I hope to take advantage of the coming summer. What a pity that so few of your readers favor us with suggestions in the vegetable line. Your correspondent's winter radishes, like mine, have outgrown their usefulness, and doubtless from the same cause—too early sowing. From the 5th to the 15th September is about the right time; mine were sown in August by mistake.

The drawing of manure directly from the stable to the land is advocated and practiced by so many successful tillers of the soil that I almost fear to allude to the subject. How they manage to spread such manure evenly over the surface is something I never could understand. A little manure here and a few straws there would surely be the outcome of any attempt of mine in that direction, so I content myself with a good old method which experience has taught me to pin my faith to. By the middle of February, if all has gone right, the manure that has been accumulating for several months past is all in one heap. It is not merely a heap of horse manure or a heap of cow manure, but it is an *omnium gatherum* of every good and precious thing suitable for the purpose. It has been turned several times; in gardening phrase "it cuts like a cheese" and no flower that ever grew delights the gardener's eyes more than the sight of such a pile. It has only one fault: it is never half large enough.

The manure should remain intact until actually wanted. It is bad practice to have the land dotted over with little heaps before it is fit to plow, and to spread the manure broadcast would only delay the drying of the land. I need hardly add that whilst one pile of manure is being manipulated, another one must be looming up, larger upon larger, waiting its "turn," which, at this busy season, cannot be long delayed.

A good job for stormy weather is the making of straw mats for the frames. It is customary to trim the sides of the mat, but I think that at least one side should be left untouched: they fit together so much better. A mat with the warp 9 inches apart (five strands) and the straw projecting 14 inches at each side, covers a good deal of glass. The straw should be lifted like a pinch of snuff and not in handfulls as beginners are sure to do. Mat-making goes on best when three hands are employed, two to make the mat and one to hand the straw. This insures an even texture throughout.

It is not usual to record failures, but I shall do so with the hope of getting the views of some of your correspondents on a particular point.

The winter of 1878-79 was so severe on young cabbage plants that I resolved to winter mine in frames, protecting with the sash in severe weather. Up to this writing we have had no winter to speak of, yet, at the very first frost, and before I had the least idea that the sashes were needful, I lost the bulk of the plants. The plants looked strong, but, unless they were affected by the unprecedented heat of October, it is not easy to account for such wholesale destruction. It is easy to remedy the matter by a timely hot-bed, but it would be instructive to know if others had a similar experience.

The first hot-bed for tomatoes may be made about the 20th; if a week later perhaps all the better. Three or four weeks later another must be prepared to receive the young plants, which would soon get overcrowded.

The *Giant Rocca Onion* mentioned by Mr. Massey grows six inches in diameter here from the seed, but does not keep well.

Baltimore Co., Md.

JOHN WATSON.

CURIOUS VEGETABLE.—Mr. R. W. L. Rasin exhibited to the Executive Committee of the Maryland Horticultural Society at a recent meeting, a carrot grown in Georgia, by the aid of one of his fertilizers, and forwarded by Messrs. Wright & Crane of Augusta, which has assumed a likeness to a dwarfed specimen of the human race, more exact than such resemblances generally are, and much more marked than specimens of the Mandrake.

Maryland Granges.

OLNEY, No. 7, Montgomery Co., elected for 1880 the officers named below, and they were installed into their respective chairs at the meeting of January 13th: M., Jos. T. Moore; O., Geo. E. Brooke; Lec., Wm. Hy. Farquhar; St., Gus. W. Dorsey; Treas., Allan Farquhar; Chap., Z. D. Waters; Sec., Mrs. C. H. Farquhar; G. K., Augustus Stabler; C., Mrs. Anna L. Moore; P., Mrs. M. O. Dorsey; F., Mrs. M. B. Magruder; L. A. S., Miss Margaret B. Chichester.

LEWISTOWN, No. 134, Frederick Co., has elected the following officers for 1880, who were installed by W. State Master Devries, at a public meeting on January 24th: M., J. D. English; O., Levi C. Leatherman; Lec., Noah Flickinger; St., J. H. Hinea; As. Ste., J. H. Hill; Chap., D. Gaugh; Treas., J. T. Geesey; Sec., G. W. Miller; G. K., L. P. Ramsburg; C., Mrs. Eliza Michael; P., Mrs. C. Miller; F., Miss Clara Ramsburg; L. A. S., Miss Clara Howard.

ENTERPRISE, No. 4, Frederick Co., the following officers were elected for the ensuing year: M., J. N. Chiswell; O., Frank Myers; Lec., M. J. Grove; S., W. H. Michael; As. Ste., Jas. Carey; Chap., Christian Thomas; Treas., G. W. Myers; Sec., Mrs. W. T. Chiswell; G. K., W. T. Chiswell; C., Mrs. J. N. Chiswell; P., Miss Kate Thomas; F., Miss E. Thomas; L. A. S., Miss Jennie Chiswell.

MANTUA, No. 169, Baltimore Co., has elected for 1880: M., Edw. P. Philpot; O., Geo. Chilcoat; Lec., O. W. Gent; Chap., Dr. J. J. Given; Treas., Aquilla Chilcoat; Sec., Chas. W. Semms; Ste., Edw. A. Cockey; A. S., J. G. Gent; G. K.,

W. D. Griffith; C., Mrs. Edw. P. Philpot; P., Miss Ella Chilcoat; F., Miss Mary Griffith; L. A. S., Miss Annie Given.

HARFORD, No. 118, Harford Co., has chosen the following officers for 1880: M., C. W. Michael; O., C. Cole; Lec., Jas. H. Michael; Ste., C. A. McGaw; A. S., C. S. Courtney; Chap., B. H. Keen; Treas., James C. Malcolm; Sec., W. G. Martin; G. K., R. P. Mitchell; C., Miss Missouri Elliott; F., Mrs. H. E. Michael; P., Mrs. Annie Hyde; L. A. S., Mrs. B. H. Keen. They were installed Jan. 30, by W. M. Devries.

ASBESTOS, No. 172, Baltimore Co., has elected the following officers, who were installed Jan. 2, by W. State Deputy C. Lyon Rogers, and W. M. Saml. Brady, of County Grange: M., Sam. C. Heird; O., Saml. K. Crosby; Lec., T. Alex. Seth; Ste., Geo. W. Longley; A. S., Wm. H. Kalb; Treas., Luther Timanus; Chap., Rev. J. H. C. Dosh; Sec., John S. Wilson; G. K., Wm. E. Upton; C., Miss Ida Crosby; F., Miss Ella Williams; P., Mrs. J. H. C. Dosh; L. A. S., Miss Florence Crosby.

CENTENNIAL, No. 161, Baltimore Co., has elected for 1880: M., George Merryman; O., S. M. Anderson; Lec., Fred. Von Kappff; Ste., Edwin Jessop; A. S., Jeff Shanklin; Chap., D. Jenifer; Treas., Mrs. D. Jenifer; Sec., J. M. Matthews; G. K., H. C. Merryman; C., Mrs. W. Stevenson; P., Mrs. J. E. Parks; F., Miss Bessie Jenifer; L. A. S., Miss Sophie Talbott. They were installed Jan. 15, by W. M. Brady, and W. Secy. Sands, of Baltimore Co. Grange.

SUMMIT, No. 164, has elected for 1880: M., Vincent McCullough; O., Samuel Gore; Lec., John Balm; Ste., Jas. H. McCullough; A. S., Philip S. Cross; Chap., John W. Cooper; Treas., W. McCullough; Sec., Jacob N. Shauck; G. K., George Miller; C., Mrs. Susan McCullough; P., Mrs. Maria Shauck; F., Mrs. Mary Bull; L. A. S., Miss Serena McCullough. And they were duly installed Jan. 13th, by Past-Master, Geo. M. Fultz, assisted by Past Asst. Stewart John E. Bull.

DAMASCUS, No. 80, Montgomery Co. By request of State Master Henry O. Devries, I send you a short account of our meeting of 15th inst. for publication in your journal.

Notwithstanding the day was unfavorable, the Hall, which is 20 by 40 feet, was full to overflowing. State Master, Devries, was present, and in a very appropriate manner installed the officers for the ensuing year as follows: Jos. M. Burdett, Master: The Master made a short speech, which was full of hope and good cheer. John N. Beall, O.; Columbus F. Purdum, Lec.; John E. Warfield, Ste.; Washington L. Day, Asst. St.; Rev. Jackson Day, Chap; Wm. Bryer, Treas.; Chas. W. Browning, Sec.; Caleb C. Lawson, G. K.; Amanda W. Day, C.; Zero Boyer, P.; Exerline Warfield, F. The Lady Asst. Ste. was not present, on account of sickness. The Lecturer responded to a call for some remarks, in which he defined the position of the order, its object and purpose being to better the condition of the farmer, by morally, intellectually and financially educating him.

Bro. Devries was then introduced and made a sound practical speech, which was listened to with the best attention.

Prof. Walker and choir were present, and did excellent service in the way of vocal music.

A rising vote of thanks was given Bro. Devries for his services on this occasion.

Fraternally, C. F. PURDUM.

GLENWOOD, No. 41, Howard Co., has elected for the ensuing year: M., W. C. Musgrove; O., A. G. Matthews; Lec., G. D. Clark; Ste., W. T. Day; A. S., D. P. Gaither; Chap., W. A. Ridgely; Treas., David Clark; Sec., J. Eugene Buck; G. K., R. H. Dorsey; C., Sister H. Musgrove; P., Josephine Buck; F., L. Gaither; L. A. S., Sister A. C. Linthicum.

LAUREL, Del., No. 24. The officers for 1880 are: M., A. J. Horsey; O., J. W. Anderson; Lec., Thos. W. Ralph; Ste., H. C. Lewis; A. S., Samuel Bacon; Chap., Mrs. L. Tate; Treas., Bayard Wheatley; Sec., Thomas Bacon; G. K., Thos. C. Horsey; C., Mrs. Amelia Bacon; P., Mrs. Mollie Horsey; F., Mrs. E. Horsey; L. A. S., Mrs. Annie Moor. The installation ceremony, which was public, was performed on Tuesday, Jan. 20th, by A. E. Acworth, Master of Pioneer Grange, No. 38, of Maryland, who had been specially invited for the occasion, assisted by Past Master Wm. B. Records, of Little Creek (Del.) Grange, and Past Master E. M. Lowe, formerly of Delmar (Md.) Grange. A noticeable feature of the audience was the number of children and young persons in it.

The Master of Pioneer Grange also by special request installed the officers of Wicomico Grange on January 3d, who are as follows:

M., Samuel H. Fooks; O., E. S. Hasting; Lec., John L. Morris; Sec., T. Irving Kent.

BRIGHTON, No. 60, Montgomery Co., has elected the following named officers, who were installed, January 23, by Mrs. Jos. T. Moore, W. Ceres of Olney, No. 7; M., Isaac Hartshorne; O., R. H. Lansdale; Lec., P. T. Stabler; Ste., John O. Clark; A. S., T. F. Lansdale; Chap., Wm. C. Gartrell; Treas., Wm. J. Scofield; Sec., E. M. Lansdale; G. K., French Gartrell; C., Jane H. Scofield; P., Lizzie F. Lawrence; F., Annie E. Hartshorne; L. A. S., Mary Annis Stabler.

SPRINGVILLE, No. 158, Carroll Co. At a public meeting held on January 20th, the officers elected were installed into their respective chairs according to the impressive and beautiful ritual of the order, by W. State Master H. O. Devries, assisted by Bro. Oelings, of Summit Grange, the following being the officers for the ensuing year: M., Ephraim Shearer; O., John W. Hoffman; Lec., John L. Hinkle; Chap., Jacob F. Shearer; Ste., Noah S. Warner; A. S., Peter C. Wertz; Treas., Joseph R. Miller; Sec., Jno. D. Shearer; G. K., John L. Wertz; C., Mrs. E. Shearer; P., Mrs. J. A. Bahn; F., Mrs. Jno. W. Hoffman; L. A. S., Mrs. Henry W. Hains.

After the installation the assistant installing officer, Bro. Owings, made an entertaining speech, after which our W. State Master, H. O. Devries, made a very interesting address, showing the workings of the Grange order, and the great value of co-operation and concentration among farmers, which was listened to with marked attention by the audience, and a hearty vote of thanks tendered him at its conclusion.

E. S.

LIMESTONE VALLEY, No. 70, Howard Co., has elected for 1880: M., F. C. Pue; O., J. S. Watkins; Ste., Wm. Clark; A. S., Jas. T. Clark; Lec., W. H. Harban; Sec., James Harban; Treas., Helen Harban; G. K., J. N. Miller; Chap., L. W. Linthicum; C., Sister Ridgely; F., Sister Watkins; P., Sister Harban; and L. A. S., Sister Hardy.

CENTRALIA, No. 87, Anne Arundel Co. A public installation of the officers of Centralia Grange was held January 23d, at the Grange Hall; and a feast was given, at which many of the ladies and gentlemen of the neighborhood, the invited guests of the Grangers, were present. Henry O. Devries, Master of the State Grange, acted as installing officer, with the assistance of Bro. Samuel K. Dashiell, and installed the following officers:

M., Bro. Geo. T. Warfield; O., Bro. Richard L. Ogle; Lec., Bro. Lloyd E. Dorsey; Ste., Bro. William Cronmiller; A. S., Bro. Geo. T. Warfield, Jr.; Chap., Bro. Thos. J. Bowie; Treas., Bro. Lewis H. Haslop; G. K., Bro. John H. King; Sec., Bro. G. K. Hutchens; C., Sister Mary E. Warfield; P., Sister Lussie Bowie; F., Sister Laura Dorsey; L. A. S., Sister Lottie Haslop.

The installation was impressively performed, each officer seeming to be impressed with the importance attached to the proper performance of official duty.

W. M. Warfield returned thanks to the members of the Grange for the work of confidence in him, by elevating him from Overseer to Master of the Grange.

W. L. E. Dorsey returned his thanks to the Grange.

Bro. Samuel K. Dashiell, late W. Lecturer, addressed the Grange. Bro. Henry O. Devries then addressed the Grange in happy remarks, in the furtherance of the benefits of a proper organization for the benefits arising from agriculture. He spoke for at least one hour much to the edification of the members of the Grange and the invited guests.

At 6½ o'clock P. M. a sumptuous repast was spread for the visitors and members, and about 10½ o'clock the assemblage dispersed much pleased with the events of the evening. S.K.D.

FAIRLEE, No. 8, Kent Co. At the regular meeting, January 17th, the officers for 1880 were installed according to the impressive and beautiful ritual of the order, by W. Past Master J. W. Corey, assisted by Sis. C. Hurlock. The following are the officers: Master, A. J. Rees; O., J. H. Gale; Lec., H. Meeks; Chap., J. H. Baker; Ste., J. W. Corey; Sec., T. A. Hulme; Treas., C. G. Wheatley; C., Mrs. A. J. Rees; P., Mrs. T. A. Hulme; F., Mrs. Avis Vannort; L. A. S., Mrs. J. H. Gale.

After the installation Bro. J. H. Baker delivered an address full of thought and good sense, which was listened to with marked attention.

After the address the W. Master introduced Sis. J. H. Gale, address of the *Grange Garner*, a monthly paper published by Fairlee Grange; its motto, "Hew to the line; let the chips fall where they may." Sis. G. did her part well, and her editorials show cultivation and refinement.

Sis. J. H. Baker recited a poem with excellent effect.

G.

Maryland County Societies.

Most of the county societies elect their officers for the year in January, and reports from the following have so far been received. The dates of the fairs of such as have fixed them are given:

FREDERICK.—Dr. Fairfax Schley, President; Eugene L. Derr, Esq., Vice-President; Col. Calvin Page, Treasurer; F. A. Markey, Secretary; J. W. Baughman, Corresponding Secretary, and Ignatius W. Dorsey, Chief Marshal.

KENT.—President, Jos. H. Hossinger; Vice-President, W. W. Stephens; Secretary, H. Massey; Treasurer, Sam'l Vannort; Corresponding Secretary, Thomas Gale; Financial Secretary, F. Harper; Librarian, Wm. Morris.

CARROLL.—President, Col. Wm. A. McKellip; Vice-President, David Fowble; Treasurer, R. Manning; Secretary, Francis H. Orendorff. Fair will be held September 28th to October 1st.

HARFORD.—President, Garrett Amos; Vice-C. C. Kinsey; Treasurer, Henry W. Archer, Jr.; Corresponding Secretary, Herman Stump, Jr.; General Secretary, J. M. Streett.

BALTIMORE.—President, Sam'l Brady; Treasurer, Col. D. Jenifer; Secretary, Wm. B. Sands; Board of Managers, Samuel M. Rankin, Samuel Brady, John Ridgely, of Hampton, Chas. W. Semmes, Samuel M. Shoemaker, Wm. D. Brackinridge, D. Jenifer, Dickinson Gorsuch, Thomas B. Todd, B. F. Taylor, John Crowther, Jr., Jas. Pentland. Date of fair, September 7—10.

WASHINGTON.—Date of exhibition October 19—22d.

ANNE ARUNDEL, HOWARD AND PRINCE GEORGE'S.—It is proposed to hold a meeting at Annapolis Junction on February 3d, to form a society to embrace these counties. There is no reason why these farmers should not have an useful and successful society, and they can have, if representative men will take hold of it; but it seems rather a forcing of matters to attempt to include Baltimore city in its operations, this being a project probably to inject into the management an alien element. There are, we believe, societies already incorporated in each of the three counties named.

Veterinary.

FILM ON THE EYE.—A farmer asks for information, as follows: "I have a very fine three-year-old colt which one of my men struck in the eye a few days ago. I bathed it with sweet cream and salt, which seemed to draw out the fever; but half of the eye has turned white. Would you be kind enough to let me know what to do to take the film away?"

Reply by the *Canada Globe*:—A skilful veterinarian could probably cut off the film, but no one else should attempt it. Sometimes such films may be removed by touching them daily with a feather dipped in a solution of three grains nitrate of silver to an ounce of distilled water. The application should not be made as long as there is inflammation in the eye or the eyelids.

FOUL IN THE COW'S FOOT.—The *New England Farmer* says that this disease is sometimes

caused by driving cattle long distances to water over rough and frozen roads, and sometimes by pasturing in wet, swampy ground; generally, however, it is the consequence of a filthy condition of stables, where the cow stands for days together in a damp and fermenting mixture of straw and excrements. There are two diseases known as "fouls,"—the "soft" and the "horny." In the soft fouls the animal is quite lame, and there is a discharge of very offensive matter from between the claws of the hoof. Usually the sore can be cleaned by the application of a weak solution of carbolic acid, though in very severe cases the soft and inflamed parts must be cut away, or burned out with caustic. The parts should then be dressed with some mild ointment, or an application of tar, or cade oil. Some farmers apply a pork rind, binding it on the foot in contact with the inflamed surface, and allowing it to remain for two or three days. The animal should be kept as quiet as possible, and, above all, should stand in a perfectly clean, dry place. In the horny fouls some part of the horn of the hoof will be found to penetrate into the softer parts, and on pressing the hoof the animal feels a great degree of pain. In such cases it is necessary to cut away these parts of the horn, and in case the hoof feels very hot it is sometimes well to bleed the animal from the veins of the foot. A rag moistened with vinegar and water, or a weak solution of carbolic acid, should be bound around the foot, and the animal allowed perfect rest and absolute cleanliness, until recovery.

HEAVES.—The *Prairie* says: Farm horses, as well as horses used in the cities, are liable to the complaint commonly called heaves. The causes of this anomaly are various. Thus overwork, in a peculiar state or condition, may produce it; also, overloading the stomach, either with food or water, especially before or after fast work. It is supposed also to be hereditary. Frequently it follows cases of chronic cough, and appears to be more frequent in mares than in horses or geldings. It is also supposed to be due to a deranged state of some of the nerves or nervous centres, most probably of the *par vagum*; which supposition is borne out by the fact that, when this nerve, from some cause, becomes paralyzed, the functions of the bronchial tubes and lungs, to which it is abundantly distributed, are disturbed, and evince symptoms similar to heaves. Concerning treatment, very little can be said, and no remedy will effect a permanent cure. The condition may be materially relieved by special attention to the diet. The food should always be given in small quantities, and at frequent short intervals. Mashings of bran with linseed meal and sliced carrots, (which latter are peculiarly suited for this ailment,) together with small quantities of bruised or ground oats, form the best food. The hay, which should not be timothy, as well as the drinking water, should always be given in small quantities. In proper season, green food and pasturing will generally suit better than dry food, because it sooner passes out of the stomach. Steady, regular work will often keep the animal in such a condition that it can manage to carry on breathing tolerably well, but heavy or fast work, or entire idleness, have an equally prejudicial effect.

Home Department.

The Sermons of the Snow.

With the softness of silence, unceasing though slow,
In the low leaden light comes the crystalline snow,
So untrifling it seems, so impartial withal,
And so chastening to all that it touched in its fall.
It appears as if dropped by the Father's kind hand
As a mantle of charity over the land!
While its thick woven web hides the Giver on high,
Every stain on the earth is concealed from the eye;
And so bounteous the benison to mortals below.
From the earth to the sky there seems nothing but
snow.
Since the sweet boon of charity, never alone,
But in multiplied blessings is dropped from the throne.
So the snow that to-day robes the earth in the pride,
Of a blooming young maiden arranged as a bride,
Will to-morrow be torn by the boreal blast,
Will be worn by the wanton south wind, wooing past;
And its beauty be lost and its whiteness undone,
By the light, loving smile and warm kiss of the sun;
Then, resolved into tears—as the new life is found,
It will faithfully serve the great need of the ground,
And at length, in the rounds of the feet-footed hours,
Comes to bless us again in the birth of the flowers!

Tidiness.

The terms tidiness and neatness are very often used indiscriminately, whereas they are not strictly synonymous. Neatness, like cleanliness, belongs more properly with the spick and spare class of minor virtues, while tidiness occupies a middle ground, and is a compromise between their unbending requirements and the liberty the average household demands. While those good qualities of the sterner sort have need to be kept in subordination, and only allowed supremacy in matters strictly personal, tidiness may pervade the house without jarring upon any one's sensibilities; in fact it is only another name for universal comfort. It implies neatness without fussiness, and cleanliness without ostentatious display of the time or manner of its accomplishment; an instructive perception as to what ought to be done, and promptness in doing it, rather than to wait for periodic or spasmodic efforts.

When a garment is thrown carelessly down by one of those heedless ones from which few houses are exempt, and whom no amount of talking will ever bring to a sense of their shortcomings, how much easier it is to pick it up and put it in place, than to leave it and thereby subject the household to the annoyance of disorder, or the worse annoyance occasioned by the search for it when wanted; or when the newspapers have accidentally or carelessly been left about on chairs or the floor, how little trouble to fold and place them on the table or wherever they belong; occasionally, too, the chairs may need replacing, or scraps to be picked up, or even the dust pan and brush to be used, in order to maintain the character for tidiness of a room or a house; none of which however would require five minutes to do, nor any labor worth speaking of; yet if neglected, what a comfortless air a house will have before the cleaning-time arrives, and what a commotion the cleaning up will cause.

Tidy habits are also great economizers of time. I remember many years ago, while my own domestic habits were being brought into shape,

noticing and remarking upon the care with which a young mother, with whom I was intimately associated, would, in preparing to go out, no matter how she might be hurried, place every article of clothing she had taken off where it belonged, and on returning was equally careful to go to the closet, or bureau, and, as she removed each article from her person, put it in place. Being the mother of several small children, and all that that implies, and merely a comfortably nice housekeeper, not recognized as of the "speck and spare" order, caused me to remark upon the evidence of precision on her part. She very good-naturedly explained to me that she could not afford to do otherwise. "Because," said she, "if I lay them elsewhere first, I will have to go back to replace them some time, and that would make just twice the amount of handling, besides the risk of something happening to them." Those chance words found lodgment in a brain somewhat given to philosophizing, and have helped me to steer clear of a good many domestic rocks.

Most of these remarks might as well perhaps have been made under the head of "order," or "system," or "method;" but as the result would at any rate be tidiness, I dare say no one will object to their standing under that head, nor do I wish to drop the subject without referring more particularly to it in its application to our personal appearance.

We might suppose that tidiness in our household matters would naturally be followed by a corresponding care of the person; and if we could "see ourselves as others see us," or as we see our surroundings, it would not happen, as it often does, that there is a marked contrast in that respect with persons who, failing to consult their mirrors, neglect themselves in their care for other interests.

In regard to an out-and-out slovenly woman, I presume there is but one opinion, and that one of not the slightest consequence to herself. But there are degrees of slovenliness with which some of us, who have not yet become indifferent to the regard of those about us, are too much disposed to temporize. Errors of that description usually grow out of an exaggerated notion of the liberty they are entitled to within their own precincts. Consequently, home people must suffer the displeasing consequences. It is a great pity, for a woman's own sake, that she should ever allow herself to appear even in her own family otherwise than reasonably tidy; but to do so habitually, leaves no room for pity on her account,—it is due rather to the other members of her household. The men and boys who are out of the house so much of their time, and who ought to carry with them at all times a pleasing sense of what awaits them on their return, can hardly do so if the home divinities are given to being in curl papers, and collarless, or generally slipshod.

Motherhood and its attendant inconveniences, which render us so liable to temptations in regard to free and easiness of dress, is nevertheless the strongest reason for painstaking in such matters. Besides the pride and pleasure with which the father is supposed to regard the mother of his children—a regard which no true

woman can appreciate and hold it lightly—there are the eyes of the little one growing each day more observing, quick to see the mother love, and almost as quick to discover a mother's weaknesses and avail themselves thereof. The outer woman betrays the inner woman, and we cannot command the respect of others unless we respect ourselves, not even that of our children.

It is important, however, in order that habits of tidiness should be permanent, to rise above the consideration of observation, and have more of an eye to the general fitness of things, or else as soon as we are by ourselves we will fall back into "not caring." That is how it happens that so many of us who are isolated in the country are apt to be caught in dishabille. Our occupation is our standing excuse; but behind that is the fact that we were not expecting to be seen. Embarrassing mishaps of that kind result not only from careless habits, but also from lack of independence in adopting for home use the most suitable kind of dress, and relying upon it to make us presentable under ordinary circumstances, rather than to suppose it necessary to make use of "Sunday fixings" for afternoons, or emergencies, to our great discomfort. Such notions lead to the putting off of the evil hour, until somebody is seen approaching or until we are "caught." When the compulsory change has been made, it is probably for the *second best*, or something just the least bit shabby in our own estimation, and the consequence is we neither look or feel as nicely as we should in some neat, inexpensive dress that will bear washing, and therefore bear whatever use our continually-recurring duties require. Neat linen collars and cuffs and a white apron, with such a dress at home in the country, are suitable to meet and entertain any of our friends, though they may have on their diamonds and velvets. Fitness is everything; and we gain in every way by recognizing what belongs with our everyday life. To endeavor to make ours correspond with that of others differently circumstanced is absurd and unsatisfactory. Our city sisters gain nothing by the more elaborate and expensive style of dress their manner of living demands; and it seems to me a matter for congratulation that we may so easily be as suitably and becomingly dressed. "Fashion" is their watchword; let "tidiness" be ours.

CERES.

Sights in Philadelphia.

Christmas decoration in Philadelphia is more general than with us. Quite a number of stores is still festooned with evergreens and ivy, a florist's is readily distinguished by these signs, and it is a pretty and effective way of designating such places, the mildness of the winter having made it possible to keep this up to the present. In some of the churches the New Year has been opened by vigorous efforts in favor of a thorough Temperance reform. Careful statistics said to be below the real aggregate are appalling. We have as a nation in 1879 buried in seventy-five acres of American soil from seventy-five to one hundred thousand drunkards, known cases of deaths from ardent spirits; the deaths of these

have consigned to public charity, want and crime, three hundred thousand destitute children; one hundred thousand persons have been committed to prisons for crimes done under the influence of liquor—we all know that most of these will become life-long criminals; whilst for public education of our forty millions, for books, periodicals and newspapers of all kinds throughout the land, we have paid ninety millions of dollars; for alcoholic poison we have expended the enormous sum of seven hundred and forty millions of dollars.

A newspaper item in reference to a very large diamond importation of Bailey, Banks & Biddle, led me to spend a pleasant and suggestive hour among the jewels of this house, which reminded me of the crown ones of France in the Paris Exposition, as tray after tray of brilliants was brought out, sparkling like dew-drops with all the hues of the rainbow in the morning sun, how impossible it seemed to realize that these gems were really in substance the same as the dull, gray point of a lead pencil or a dingy piece of coal, carbon or graphite, but, the one in an impure, the other a pure state. Does not this fact give us a dim idea of the change that will take place in the resurrection or glorified body?

In this piece of tissue paper is a stone of very beautiful blue, about the size of a pea, and worth twelve hundred dollars. This stone always needs diamond setting to light it up. Among the French crown jewels is a set of sapphires thus surrounded with diamonds, which is of exceeding beauty. This emerald, the size of a large bean, set with a border of small diamonds, is worth two thousand dollars, and of remarkably fine color. Lustrous black pearls recall the necklace of the Empress Eugenia, which sold for twenty thousand dollars after one large central one had been taken out. This single one brought six thousand dollars. Out of twenty millions of oysters only four million of shells have in them any pearls.

It is not generally known that many stones of rich color owe their hues to the oriental process of burning, which is done in crucibles, while diamonds would be destroyed by it. Rubies, carbuncles, sapphires and others gain from it intensity and beauty of color.

J. B. MOORE BRISTOL.

Philadelphia, Jan., 1880.

Supplemental Remarks on Darning.

As I labored this morning over a hole eaten by a mouse in an almost-new tablecloth, the remarks of "Ceres" on the subject of "darning" naturally recurred to me. Of course her suggestions did not fit the case in hand, although valuable where there are breaks or rents that have stretched apart, and where there is no missing quantity.

In this instance I had to replace that portion upon which Mrs. Mouse had made her supper, and to accomplish it, made use of a lesson learned by accident many years since, and which experience has proved to be worthy of a place in the "Home Department" of the Farmer.

The operation is simply to straighten the edges of the hole by the thread and apply to it

a piece matching the cloth if possible, and extending a quarter of an inch beyond the opening all around it, this lapping portion to be closely and neatly darned together. If well done, you will hardly notice it yourself, after the cloth has been washed and ironed, and I am confident your friends will not discover it. I save for this purpose the pieces cut off when straightening the ends preparatory to hemming the cloth. I used a cloth several years before discovering that it had been so mended, by skillful hands, at the manufactory. KALMIA.

Economic Hints and Receipts.

Clinkers which not unfrequently break the grate of a stove, may be removed from these and range backs by throwing half-a-dozen broken oyster-shells into the fire when the coal is all aglow, and covering them with fresh coal. When all are red hot the clinkers become doughy, and are easily taken out.

To test nutmegs, prick them with a pin; if they are good, the oil will at once spread round the puncture. Raisins should not be bought in large quantities, as they are injured by time. Weigh and measure all purchases when they are brought home. Molasses should be kept in a cellar. Good hard coal is in square lumps and breaks with a smooth shining fracture. Bad coal has pieces of a dull flat color as thick as the palm of the hand and of greater or less size, which, when burnt remain hard, heavy and whitish, hence called "bone." A shining square fracture is what an honest coal-dealer loves to see. Poor "bony" coal is hard to kindle, and goes out directly.

Brains and muscle cannot be built up without phosphate in food. The great cook, Soyer, says, "my plan is to turn the beefsteak often, and my reason is that if turned but once, the albumen and fibrine of the meat get charred, and the heat throws out the osmazone or gravy on the upper side, which when turned over goes into the fire; by turning it often so as at first only to set the outside, the gravy goes into the centre, and it becomes evenly done throughout." Atmore's Canned Plum Pudding is more economical in time and labor than home-made ones. Put the can in boiling water long enough to get it thoroughly hot throughout, and it is then ready for the table. Good oyster fritters may be made by beating two eggs very light, then stirring in two tablespoonfuls of cream, three tablespoonfuls of sifted flour, and a pinch of salt; into this batter dip the oysters and fry them in hot lard.

J. B. M. B.

A Batch of Nice Cakes.

WHITE MOUNTAIN CAKE.—3 cups sugar, 1 cup butter, $\frac{1}{4}$ cup sweet milk, whites of 10 eggs, $\frac{1}{4}$ teaspoonful soda, 1 teaspoonful cream tartar sifted with the flour, $\frac{1}{4}$ cups flour. Flavor with essence of bitter almond. **ICING.**—Whites of 3 eggs, 1 pound powdered sugar, flavor with lemon juice. Bake in jelly-cake tins and fill with grated cocoanut, sweetened with a quarter of its weight of powdered sugar or with icing.

FRENCH CAKE.—1 pound sugar, $\frac{1}{4}$ pound butter, 1 pound currants washed clean and

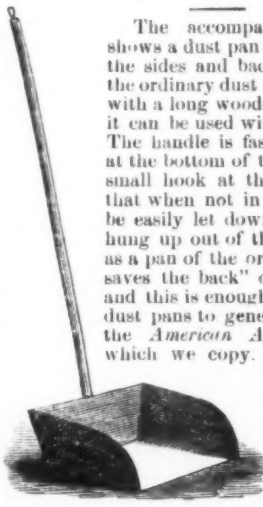
dredged with flour, 3 cups flour, 4 eggs, nutmeg and cinnamon to taste, $\frac{1}{4}$ teaspoonful soda dissolved in three tablespoonfuls milk.

LADY CAKE.—1 pound sugar, $\frac{1}{4}$ pounds sifted flour, 6 ounces butter, the whipped whites of 10 eggs. Flavor with bitter almond, and bake in square, not very deep, tins. Flavor the frosting with vanilla.

SISTER MAG'S CAKE.— $2\frac{1}{2}$ cups powdered sugar, $\frac{1}{4}$ cup of butter, 1 cup sweet milk, 3 cups flour, 4 eggs, 1 lemon, juice and rind, 1 small teaspoonful soda. Bake in a square or oblong tin, and frost with whites of two eggs, beaten stiff with powdered sugar.

DOVER CAKE.—1 pound flour, 1 pound white sugar, $\frac{1}{4}$ pound butter rubbed with the sugar to a very light cream, 6 eggs, 1 cup sweet milk, 1 teaspoonful soda dissolved in vinegar, 1 teaspoonful powdered cinnamon, 1 tablespoonful rose-water. Flavor the frosting with lemon juice. C. K.

A Long-handled Dust Pan.



The accompanying engraving shows a dust pan made of tin, with the sides and back higher than in the ordinary dust pan, and provided with a long wooden handle, so that it can be used without stooping. The handle is fastened by a hinge at the bottom of the pan, and by a small hook at the upper edge, so that when not in use the pan can be easily let down and the article hung up out of the way, as readily as a pan of the ordinary kind. "It saves the back" of the housewife, and this is enough to commend the dust pans to general use. So says the *American Agriculturist*, from which we copy. Many of these little contrivances save a great deal of labor as well as much backache, and can readily be made by any "handy" body.

HAMBURG EDGING.—My wife wishes to inquire in your household department, if any of your readers know how "Hamburg Edging" is made,—whether by hand or machine, as she cannot conceive how it is made so cheaply by hand, and yet cannot see how it is done by machinery. M.

The Maryland Horticultural Society.

The Executive Committee has determined to hold no February show this year. The other monthly exhibitions will take place on the first Thursday of March, April, May, June and November, and the date of the annual show has been fixed for Sept. 28-Oct. 1. The Premium List will be ready in a few days.

The American Farmer.

PUBLISHED ON THE FIRST OF EVERY MONTH

By SAM'L. SANDS & SON,

At 128 W. Baltimore Street, (sign of the Golden Plow,) Baltimore, Md.

WM. B. SANDS, Proprietor.

SAM'L. SANDS, } Editors and Publishers.
WM. B. SANDS, }

SUBSCRIPTION, \$1.50 a year, in advance. Three copies will be sent for \$4, and any person sending five names and \$5 will receive an extra copy free.

ADVERTISING RATES.

	1 Mo.	3 Mo.	6 Mo.	1 Year.
One Square, 10 lines.....	\$ 1.50	\$ 4.00	\$ 7.00	\$ 12.00
Quarter Page.....	6.00	15.00	22.50	35.00
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Cover Pages subject to special contract.
Transient Advertisements payable in advance—all others quarterly.
Advertisements should reach us by the 27th of the month, to secure insertion in the succeeding issue.

BALTIMORE, FEBRUARY 1, 1880.

SEVERAL communications are left over from want of space.

WE RENEW our request to all our readers to communicate through our pages their experiences, their successes and failures in farm and garden work, in stock management, &c.

OUR CONTRIBUTORS will confer a favor by forwarding their MSS. as early as convenient in the month.

Our readers will, we think, agree with us, that this issue of the *Farmer* presents not only a great deal of interesting matter, but that the subjects are treated from practical standpoints. The usual variety of opinions exists as usual, and allowance is to be made for circumstances which are not stable. Especially does the inevitable divergence occur in discussing the use of commercial fertilizers. One of our correspondents deprecates the "blind faith" which trusts to them; another believes that where applied the maker gets the grain, and that the chaff of the crop only remains for the grower. Yet on the reverse side there is confidence in them equally strong, by capable and experienced farmers, whose practice witnesses it. The opinion of one club is that 400 lbs. per acre is a paying rate; some members of another use from 400 to 800 lbs.; whilst the experience of two individuals agrees that under conditions held to be strikingly adverse to their use, such fertilizers made a crop where none was made without them.

Our position is, and has long been, that their use is a necessity of the situation; that it will continue to extend rather than diminish, and that the part of wisdom and safety is to use them as supplements to, not as substitutes for, the supplies of the barn yard. One of our recommendations has always been in the direction of the practice of Mr. Hays, of the Deer Creek Club, and our observation shows the efficiency of applying them in combination.

The protection to the farmer against his buying articles at high figures, or of inferior quality, is for him to *know* what he wants, then to buy from reputable houses, whose character is above suspicion. There is no such manufacturer who, at the present day, is not willing to state the exact contents of his compound, and to guarantee it to contain what he states.

The Agricultural College.

This institution, which has received something like \$250,000 from the State, and for which expenditure the agriculture of the State has received no adequate, if any returns, is asking the Legislature not only to be exempted from taxation, but for an extra appropriation of \$1,000 besides the \$13,000 it receives annually from the State, to make "improvements."

We were informed recently by a late official, who had been connected with the college for a number of years, and to whom, probably, any improvement in the farm and farming operations is due, that there is no substantial change in the management of the institution, which remains as heretofore in effect a military school. Practical agriculture, so far as the students are concerned, is entirely lacking, in the last school year there having been but three or four on the farm, and this year but one—he a pupil with whom military discipline did not agree, and who, as a punishment for his misconduct, was sent out to work a week on the farm!

AT THE NEW YORK STATE AGRICULTURAL SOCIETY'S annual meeting, January 21st, the retiring president, Horatio Seymour, made a most admirable address on the conflict between American and European Agriculture, and Prof. Law, the eminent veterinarian, referred with some show of indignation to the fact that in Maryland and Virginia no means have been taken to prevent the spread of Pleuro-Pneumonia. He says it is now limited to a few places in New Jersey, Pennsylvania, Maryland, and Virginia, and has never crossed the Alleghanies, and that if it should reach the prairies of the West it could probably never be eradicated from the country. Gen. N. M. Curtis was elected president of the society for 1880.

Premiums for Subscribers to the Farmer.

Our receipts from single subscribers and clubs for January, up to the date we go to press, are in excess of the same month for 1879 and far ahead of the corresponding period of 1878.

We have been especially favored by prompt renewals, and many of our old subscribers, in forwarding subscriptions for themselves and clubs, have added new names to their lists, so that the increase by such additions considerably more than make up for the loss of such as usually at this period of the year, from one cause or other, order their names dropped from our books.

We admit, however, that the extension of our circulation among *new* readers does not equal what we think the merits and usefulness of the AMERICAN FARMER would justify; and whilst not unmindful of the great bulk of our subscribers who year after year regularly and promptly reënter their names on our lists, nor ungrateful to the many who—impelled only by a desire to extend the circulation of our journal, and animated by no hope of reward other than the consciousness of doing a good act to their neighbors or to the publishers,—kindly exert themselves every season to extend the circulation of the AMERICAN FARMER among their neighbors and friends,—in the hope of securing the aid of those who are willing to work for such an object, and who expect, and properly, to receive some compensation for their time and labor, we have determined to offer the following premiums for NEW subscribers:

- | | |
|--|-------------|
| For the largest list of <i>New Subscribers</i> to the AMERICAN FARMER received at our office up to 12 o'clock noon, <i>March 10th</i> , (not less than 50 names,) we will give IN CASH | \$50 |
| For the second largest list (not less than 30 names) we will give IN CASH | \$30 |
| For the third largest (not less than 20 names) we will give IN CASH | \$20 |
| For the largest list of NEW subscribers, not included in above, received at our office up to 12 o'clock noon, <i>APRIL 10TH</i> , (not less than 100 names,) we will give in cash | \$75 |
| For the second largest list (not less than 50 names) | \$25 |
| To the farmers' club, agricultural society or grange in Maryland sending the largest list of NEW subscribers, (the names to be received at our office up | |

to noon April 10,) we will present a library of agricultural works, not less than 20 volumes, and valued, at publisher's prices, at

\$25

To the lady who sends in the largest list of *lady subscribers* to the AMERICAN FARMER up to noon April 10th, 1880, we will present an IMPROVED REMINGTON SEWING MACHINE, complete, boxed and delivered at any depot or wharf in this city,—the cash price of which is

\$26

Names for the above lists will be taken *at the club rate of \$1 per copy per year*.

It is not necessary for the names all to be sent at once, but they may be forwarded as secured, with the exact amount of money in each case, and the whole be counted at the dates fixed.

Lists will be kept of all competitors for these prizes, and when the awards are made they will be open to the inspection of all who have competed therefor, or to their authorized representatives.

That no one may lose entirely the work and time expended in getting up lists of subscribers, to all competitors who are unsuccessful in securing any of the prizes offered, we will refund ten per cent. of the money received, as a remuneration for their trouble.

In every country neighborhood there are those who could easily secure one or the other of the prizes we offer, by some energy and activity. There is a class of persons whose vocations take them among the farming community who might readily make up large lists by combining a canvass for names with their ordinary business. Postmasters, assistant postmasters, teachers, traveling agents and others are invited to compete for these prizes.

Will not our present readers oblige us by attracting the attention of such parties as would be likely to take hold of our propositions to them?

Specimen numbers, handbills and blanks will be sent to all who wish them.

Several persons may combine together, if they desire to do so, to work for these prizes; but the lists must be sent in the name of one only, and we will keep the account in that name alone.

In forwarding names say *in each letter* they are to count for premiums, and also state whether for the *March* or *April* offer.

NOTE.—The term "*new subscribers*" is meant to signify those whose names do not now appear on our mailing books.

☞ All remittances should be made by post-office order, registered letter or bank draft. In all such cases they will come safely. No name will be counted unless the cash is paid on before the time of making the award.

☞ We trust our readers will not allow the liberal premiums we offer for new subscribers to deter them from using their good offices, to which we stand so largely indebted in the past, from increasing our subscription lists by their own exertions. There is not a subscriber on our lists but who, by a few judicious words, could at least secure us one new reader. For a number of years past the increase in our circulation has been largely due to the unrewarded, but not unappreciated, efforts of our friends. We ask that these may continue. The prizes we offer are intended to reach those who desire and deserve to be recompensed for their exertions, and who will undertake the work more as a matter of business.

Books Received.

From the *Orange Judd Co.*, New York. **PRACTICAL TAXIDERMY AND HOME DECORATION**, by Joseph H. Batty, pp. 204, \$1.50. Besides the information given in what appears to be practical form on the preparation and mounting of animals, birds, fish, &c., this work contains chapters which treat of outfits, camping, traveling and the various steps necessary to secure the specimens which are to be preserved; and a considerable portion of it is devoted to the arrangement, for the decoration of the house, of natural objects, ferns, leaves, feathers, grasses, &c.; and the suggestions are such as will be appreciated by ladies who have a fondness for such ornamentalations.

From the *Industrial Publication Co.*, New York. **THE WORKSHOP COMPANION**, pp. 164, 35 cts. A compilation of a great number of useful and practical receipts, processes, rules, methods, &c., for workers in metals, wood and almost all the arts, including many suitable for the household. The small cost and wide field covered by this little volume ought to make it find a place in every workshop and household.

From *T. C. Evans*, Boston. **EVANS' ADVERTISING HAND-BOOK**, a neat, comprehensive and attractively printed manual of advertising. Also handsomely executed calendars for 1880.

THE AMERICAN ENTOMOLOGIST, an illustrated magazine devoted to practical and popular entomology, edited by Prof. C. V. Riley and A. S. Fuller, and published by Max Jagerhuber, New York, at \$2 a year, is a publication promising to be of the highest usefulness. So much of agriculture and fruit-growing is now a war with insects, that this work, in the capable hands now directing it, cannot fail to find a host of appreciative readers.

SEEDS.—From Messrs. D. M. Ferry & Co., Detroit, Mich., we have some samples of their seeds, very attractively put up, and to which we will give a trial in our garden. Also the catalogue of this enterprising and extensive firm.

Farmers' Convention in Baltimore Co.

The Board of Managers of the Agricultural Society of Baltimore county have determined to call a meeting of its farmers, similar to those which are held in other States, and in Montgomery of this State, to consider and discuss subjects connected with farming in the county, and hear papers on related topics. A committee has been appointed to make arrangements, solicit coöperation from the various farmers' organizations in the county, and to invite scientific and practical gentlemen to deliver short addresses or read papers.

The meeting will be held on Wednesday, February 25th, at 1 P. M., in the Court House at Towson town.

Hygiene.

The following, from that admirable work, *Hall's Journal of Health*, should, perhaps, have been better for the caption of "*preservation from taking a cold*," as we incline to the belief that the process described will not be sufficient to cure a cold which has become fastened upon the system. For fifty or sixty years, perhaps before Dr. Hall was born, we have practiced upon these rules with entire success; and to the care which we have observed in the premises, we attribute, with a due regard to temperance in all things, a very considerable degree of the general health which we have enjoyed up to the present time:

TO CURE A COLD.—A bad cold, like measles or mumps, or other similar ailments, will run its course of about ten days, in spite of what may be done for it, unless remedial means are employed within forty-eight hours of its inception. Many a useful life may be spared to be increasingly useful, by cutting a cold short off, in the following safe and simple manner: On the first day of taking a cold there is a very unpleasant sensation of chilliness. The moment you observe this, go to your room and stay there; keep it at such a temperature as will entirely prevent this chilly feeling, even if it required a hundred degrees of Fahrenheit. In addition, put your feet in water half-leg deep, as hot as you can bear it, adding hotter water from time to time for a quarter of an hour, so that the water shall be hotter when you take your feet out than when you put them in; then dry them thoroughly, and put on warm thick woolen stockings, even if it be summer, for summer colds are the most dangerous; and for twenty-four hours eat not an atom of food; but drink as largely as you desire of any kind of warm teas, and at the end of that time, if not sooner, the cold will be effectually broken, without any medicine whatever. Efficient as the above means are, not one in a thousand will attend to them, led on as men are by the hope that a cold will pass off itself: nevertheless this article will now and then pass under the eye of a wise man, who does not choose to run the double risk of taking physic and dying too.

LABORATORY,
BRUNO TERNE, PH. DR.,
CHEMIST.

Delaware River Chemical Works,

PHILADELPHIA, January 9, 1880.

MESSERS. BAUGH & SONS:

I have the pleasure of calling your attention to the following peculiar advantages of the **SULPHATE OF AMMONIA** manufactured by you from Animal Bones, and which ought to be of striking interest to all those in the fertilizer trade who deal in this article.

Nearly all the Sulphate of Ammonia produced from gas liquors, or the wash-water from gas works, contains Ammonium Sulpho-Cyanides—a chemical compound, which is a strong poison to the roots of the plants.

Prof. F. Nobbe, of Tharandt, Saxony; Dr. P. Wagner, of Darmstadt, and other German and English chemists, connected with the Agricultural Experimental Stations, have cautioned publicly the farming community against the use of Sulphate of Ammonia which contains Ammonium Sulpho-Cyanide, even though it may be in very small quantity. I beg to append hereto a more detailed statement of the facts above referred to, simply adding that the Sulphate of Ammonia made by you is absolutely free from the poison I have indicated, and should, therefore, be highly recommended for fertilizing purposes.

Very respectfully,

BRUNO TERNE.

In using **Sulphate of Ammonia** as a fertilizer, caution is necessary in order that farmers may select a product which is free from all Cyanide compounds, which are very detrimental to the growth of all plants.

Some years ago the markets of the European Continent were flooded with a product from the English gas waters, which proved to be of such poisonous character to plant growth that serious results were seen on every hand.

When **Sulphate of Ammonia** is produced out of gas waters, the source of a polluted product is furnished by the raw material. Many of the articles in our markets, made in this way, are contaminated with as much as from 1½ to 2 per cent. of Sulpho-Cyanide of Ammonium.

When **Sulphate of Ammonia** is produced from animal matters, such as bones, hoofs, horns, etc. the source of this poison does not exist at all, and therefore such an article can be guaranteed absolutely free from the poison in question.

It is not a difficult matter to detect this dangerous compound in Commercial Sulphate of Ammonia: Dissolve the Salt in pure water and add a few drops of Muriatic Acid, (chemically pure,) then pour in a small quantity of a solution of Chloride of Iron; the color will instantly turn from the yellow of the Chloride of Iron to a deep blood-red color, if the Sulphate of Ammonia is polluted by Sulpho-Cyanide of Ammonium.

The following is a translation of some of the German authorities on this subject:

In "The Manual of the Manufacture of Fertilizers," by Dr. Paul Wagner, Director of the Agricultural Experimental Station, Darmstadt, Germany, the author says, page 79:

"The manufacturers and users of Fertilizers should be extremely careful in regard to the pollution of **SULPHATE OF AMMONIA** with **SULPHO-CYANIDE OF AMMONIUM**, as this compound—first referred to by Dr. F. Nobbe, Professor at the Agricultural College of Tharandt, Saxony, and later confirmed by C. Schumann and the author—has an extremely poisonous effect on plant growth.

Dr. O. Kohlrusch, Vienna, published in the "Organ des Vereins für Rubenzucker-Industrie," January, 1874, the following:

A number of experiments with **SULPHATE OF AMMONIA**, polluted by Sulpho-Cyanide of Ammonium, gave the following results upon the growth of plants:

"1st. **BARLEY** is more perceptibly affected by Sulpho-Cyanide of Ammonium than **WHEAT**.

2d. Sulpho-Cyanide of Ammonium in the small quantity of 0.025 grammes of the compound—100 grammes of the Salt contained 2.50 per cent. of Sulpho-Cyanide of Ammonium—mixed with one kilogram weight of garden soil, has such a poisonous effect upon plants that they are all killed in a short time. The same destructive effect was noticed when one-half the above quantity of the poisonous compound was mixed with one liter of water, prepared as a nutritious solution. It is most certain that 0.015 of a gramme, in one thousand grammes of garden soil, would produce the same fatal effect."

To reach this result experimentally, Dr. Kohlrusch presented the following exhibit: He mixed with 1,000 grammes of garden soil, 1, 2, 3 and 4 grammes, respectively, of **Pure Sulphate of Ammonia**, and the same quantities of the **Polluted** article; he also made the same experiments in a nutritious solution with half the quantity of the pure and impure Salts. After 24 days the results were as given in this tabula:

IN GARDEN SOIL.

Treated with Pure Sulphate of Ammonia.

HEIGHT OF THE PLANTS IN CENTIMETERS.

	Barley.	Wheat.	Remarks.
1	15.0	13.0	Every plant fresh and green.
2	14.5	14.0	
3	15.5	13.5	
4	12.5	14.0	

Treated with Polluted Sulphate of Ammonia.

HEIGHT OF THE PLANTS IN CENTIMETERS.

	Barley.	Wheat.	Remarks.
1	5.0	8.0	Barley in 1 and 2 nearly dried up.
2	2.0	6.0	
3	dead.	6.5	Wheat everywhere yellow; in 4, brown, with yellow top.
4	dead.	5.0	

IN NUTRITIOUS SOLUTION.

Containing PURE Sulphate of Ammonia.

HEIGHT OF THE PLANTS IN CENTIMETERS.

	Barley.	Wheat.	Remarks.
1	12.5	11.0	Every plant healthy.
2	16.0	10.0	
3	13.0	12.0	
4	12.0	9.5	

Containing POLLUTED Sulphate of Ammonia.

HEIGHT OF THE PLANTS IN CENTIMETERS.

	Barley.	Wheat.	Remarks.
1	7.0	10.0	Barley yellow, with dry top. Wheat, in 1 and 2 fresh; in 3 and 4, greenish yellow.
2	9.0	8.5	
3	6.5	10.5	
4	8.0	10.0	

After 36 days all the plants of column one—in which pure Sulphate was used—were entirely healthy and vigorous. The largest Barley in the garden soil stood 24 centimeters high; in the solution, 23.5 centimeters high.

The plants in second column—that treated with the polluted Sulphate of Ammonia—were, with the exception of No. 1 Barley and Nos. 1 and 2 of Wheat, ALL DEAD.

After 42 days all the plants of the second column were gone, with the exception of No. 1 of Wheat, in both departments, though these were very sickly. The plants in the first column in both departments were sound and healthy.

THE REMEDY, "Pulmona," offered in an advertising page, is claimed to be of a different class from many advertised preparations, and to have many testimonials to its efficiency.

Baltimore Markets—January 31.

Breadstuffs.—*Flour*—Market quiet and prices firm. We quote as follows, viz: Howard Street Super \$4.50@ \$5.25; do do. Extra \$5.50@6.00; do. do. Family \$6.25@ \$7.25; Western Super \$4.50@5.25; do. Extra \$5.50@6.00; do. Family \$6.25@7.25; City Mills Super \$4.50@5.25; do. do. Extra \$5.50@6.00; do. do. Rio brands Extra \$7.00@ \$7.25; Spring Wheat Family \$6.00@6.87; Minnesota Patent \$7.00@7.50; Patapsco Family \$8.00; do. Extra \$7.80; Chesapeake Extra \$7.60; Orange Grove do. \$7.40; Fine \$4.00@4.25; Rye Flour \$5.00@5.50; Corn Meal, City Mills, 7 brl. \$3.50; do. do. City Mills, 7 100 lbs. \$1.25; do. do. Western, do. do. \$1.30; Western Corn Chop \$1.10.

Wheat.—Southern quiet but firm. Western dull. Southern Fultz \$1.40@1.42; do. long-berry \$1.46@1.47; Western No. 2 red, spot \$1.40; do. do. February \$1.40; do. do. March \$1.43@1.43½; do. do. April \$1.44½@1.45.

Corn.—Southern quiet and Western active. We quote as follows, viz: Southern white 58@61; do. yellow 57@58; Western steamer, spot 54@54½; do. mixed do. 57; do. do. February 55½@55½; do. do. March 53½@54½; do. do. April 53½@54; do. do. May 53@53½.

Oats.—We quote: Western mixed 47; do. bright 49@50; do. white —@—; Southern 49@5; Pennsylvania 49@50.

Rye.—We quote good to prime at 92@93 cts. 7 bus. with the market dull though steady.

Seeds.—Clover, we quote at 8 to 8½ cts. 7 for round lots fair to prime, and ½ to ½ a cent 7 lb. higher for jobbing lots, but the market is very dull and heavy.

Mill Feed.—City, which is very scarce, we quote firm at \$22 for both middlings and brownstuff, and we quote Western nominal at \$21@22 7 ton.

Hay and Straw.—Hay is scarce and firm, and Straw steady. We quote as follows for car-lots at the depots, viz: Choice Cecil County Timothy \$20.15; Fair to prime Md. and Pa. Timothy \$18.00@19.00; Mixed Hay \$17.00@18.00; Clover Hay \$16.00; Wheat Straw \$11.00@ \$13.00; Oat do. \$14.00@15.00; Rye do. \$19.00@20.01.

Provisions.—We quote as follows: Bulk Shoulders, packed, 5½; do. L. C. Sides, do., new 7½; do. C. R. Side, do., do. 7½; Bacon Shoulders 5½; do. C. R. Sides 8; do. Hams, sugar-cured 10½@11; do. Shoulders, do. 6½; do. Breasts, do. 8; Lard, refined, tierces 8½; do. tubs 8½; Mess Pork, new, 7 brl. \$13.50.

Dressed Hogs.—We quote at \$5.75@6.00 7 100 lbs. with the receipts light and the demand fair.

Butter.—We quote: New York State, choice selections 22@23; do. do. dables 21@22; Western creamery choice 31@32; do. tubs, choice fresh 22@23; do. do. good to prime 19@22; Western Rolls, prime to choice 21@22; do. do. fair to good 18@20; Nearby receipts 16@21.

Cheese.—We quote: Eastern choice, full cream 15@15½; do. good to prime 14½@14¾; Western choice 14½@15; do. good to prime 13½@14.

Eggs.—We quote fresh at 14@15 for Western, and 15 @16 for near-by 7 dozen.

Domestic Dried Fruits.—We quote as follows, viz: Apples, quarters, 5@6; do. sliced, 6@10; Peaches, unpeeled, 6@8; do. peeled, common to fair, 5@10; prime to fancy, 12@15; Blackberries, 9@9½; Whortleberries 9@10; Raspberries, 25@26; and pitted Cherries, 15@16 7 lb.

Cotton.—We write the market strong and buoyant in tone, with spots ½, and futures 15 to 30 points up in price. Sales here 300 bales at 12½@12¾ cts., the latter low middling, and we now quote as follows for spots, viz: Middling 13; Low Middling 12½; Strict Good Ordinary 12½; Good Ordinary 12½.

Produce.—Prices are as follows for the articles named below, viz: Apples, N. Y. State, 7 brl. \$2.50@3.00; Beans, N. Y. medium, 7 bus. \$1.55@1.65; Peas, black-eyed, 7 bus. 90@95; Peas, Western green, 7 bus. \$1.83@ \$1.85; Potatoes, Early Rose, 7 bus. 50@60; do. Peerless, do. 45@50; do. Sw. et. new, 7 brl. \$3.50@3.00; Onions, Western, 7 brl. \$3.25@4.00; Bee-wax, 7 lb. 21@22; Ginseng, 7 lb. \$1.00@1.10; Seneca Root, 7 lb. 45@47; Virginia Snake, 7 lb. 20@25; Wool, unwashed, 7 lb. 34@36; do. tubwashed, 7 lb. 45@50; Hides, dry country, 7 lb. 17 @18; Sheep's Pelts, each 50@\$1.50.

Live Stock.—*Beef Cattle.*—We quote as follows; Best beefs, \$5.25@5.50; first quality, \$4.25@5.25; medium or fair, \$3.25@4.25; ordinary, \$2.00@3.00. *Swine.*—We quote common to fair at 5½@6; better grades at 6½ @6¾. *Sheep.*—We quote common to fair 4½@5; better grades 5½@6. *Lambs.*—6@6 cents.

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My Annual Catalogue of Vegetable and Flower Seed for 1880, rich in engravings from photographs of the originals, will be sent **FREE** to all who apply. My old customers need not write for it. I offer one of the largest collections of vegetable seed ever sent out by any Seed House in America, a large portion of which were grown on my six seed farms. *Full directions for cultivation on each package.* All seed warranted to be both fresh and true to name; so far, that should it prove otherwise, I will *refill the order gratis*. The original introducer of the Hubbard Squash, Phinney's Melon, Marblehead Cabbages, Mexican Corn, and scores of other vegetables. I invite the patronage of all who are anxious to have their seed directly from the grower, fresh, true and of the very best strain.

NEW VEGETABLES A SPECIALTY.
JAMES J. H. GREGORY, Marblehead, Mass.

John Saul's

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Will be ready in February, with a colored plate.

It is full in really good and beautiful Plants. New Dracæna—Goldeana, Princess Margaret, Frederici, &c. New Crotons—Hamburganus, Earl of Derby, Williamsii, &c. A fine collection of East Indian and other Orchids, &c. New French and English Roses. A set of beautiful new Coleus. New Pelargoniums, new Oleanders, new Tuberosus Begonias, new Dipledenas, new Loras, Fuchsias, Dahlias, Chrysanthemums, &c.

ROSES.

An immense stock of all the new and standard varieties grown in pots on own roots—CHEAP.

Fruit and Ornamental Trees.

New PEARS, new PEACHES, with a large stock of Pear, Apple, Peach, Plum, Cherries, (standards and dwarfs,) Grape Vines, Small Fruits, &c.

ORNAMENTAL TREES, in great variety, for Parks, Lawns, Gardens, &c. EVERGREENS of all sizes, of best quality and at the lowest rates. VEGETABLE SEEDS of the finest quality, fresh and pure, grown by myself or especially for me, or my importation.

FLOWER SEEDS.—Being extensively engaged in importing and growing new and rare plants, consequently my facilities for seed-saving are unequalled.

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No. 1.—A descriptive Catalogue of Fruit Trees.
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The undersigned have in preparation the

THIRD EDITION of the NURSERYMEN'S DIRECTORY,

Embracing a list of

NURSERYMEN, FLORISTS, SEEDSMEN,
HORTICULTURAL IMPLEMENT
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DEALERS

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Printers and Publishers,

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First-Class TREES AND PLANTS

at very low rates. Apple Trees, 15c.; Standard Pear, 30c.; Dwarf Pear, 2c. Strawberry, Raspberry, Blackberry and Grape Vines by the doz., 100, 1,000 or 10,000. Extra large stock Sharpless, Miner's Prolific, Albany and other choice standard Strawberries. Queen-of-the-Market Raspberry. Descriptive Price-List free. S. C. DeCot, Moorestown, Burlington Co., N. J.

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Leghorn Cockerels, (C. F. Starr's Strain.)

EGGS in season from following stock:

Rose C. W. Leghorns,	\$3 per 13.	(C. F. Starr's strain.)
Plymouth Rocks,	\$2 " "	(Part Stoddard strain.)
Pekin Ducks,	\$2 " "	(9 Palmer strain.)

Saml. T. Earle, Sr.

Centreville, Queen Anne's Co., Md.

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23 Premiums at the Kent Co. (Md.) Fair and the Delaware State Fair, Dover, of 1879, on **Short-Horn Cattle, Berkshire Pigs, South-Down and Cotswold Sheep.** All ages for sale by

E. B. EMORY,

Centreville, Md.

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1855 BAUGH & SONS, 1880

PHILADELPHIA, PA., AND BALTIMORE, MD.,

Manufacturers and Importers of

Pure Dissolved Animal Bones, Ground Raw Bones, Acid Phosphate, Bone Meal, High-Grade Chemicals,

And other Supplies for the Manufacture of HOME-MADE FERTILIZERS.

LOWEST CASH PRICES FOR GOODS OF GUARANTEED STANDARD.

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BAUGH & SONS,

No. 20 S. Delaware Ave., Philadelphia.

No. 103 South St., Baltimore.

Send for Prices and All Desired Information.

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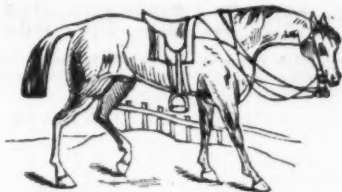
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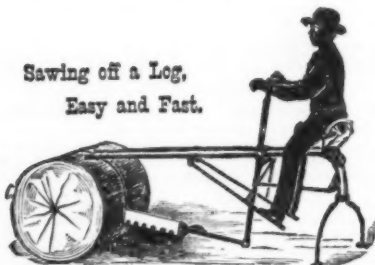
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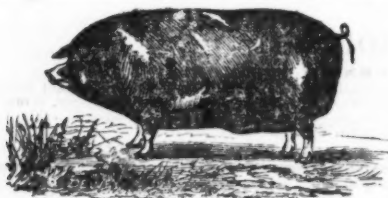
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Premium Maryland Cutter

For HAY, STRAW and FODDER, (of their own manufacture),

Of all sizes for hand or horse power. These Cutters excel in capacity, strength and durability.

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CORN SHELLERS, for Hand and Horse Power,

Including the most approved patterns; CHOPPING MILLS, CORN AND COB CRUSHERS, LARD PRESSES, SAUSAGE CUTTERS and STUFFERS, for Butchers and Family use.

Farm Wagons, Pumps, Churns, Butter Workers.

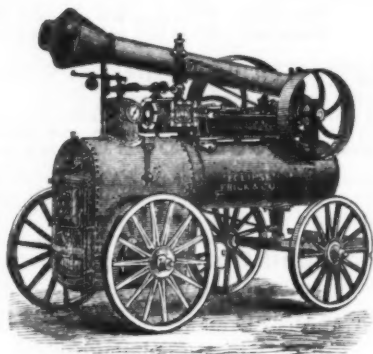
THE OLIVER CHILLED PLOW,

A new departure and great improvement over all other Plows, embracing new principles, which place it far in advance of all other Plows. It has superseded all others wherever tried in competition. Over 300,000 now in use. Warranted to do good work; scour in any soil; run lighter than any Plow in use; run steady with one, two or three horses, and not choke or corrode; work well in dry or hard ground, and give good satisfaction.

PATENT STEEL BARBED FENCE WIRE—Does not rust, stain or decay. A complete barrier to unruly stock. The most durable and cheapest fence. STEEL AND CAST-IRON PLOWS, PLOW CASTINGS, with a general assortment of Agricultural Implements and Farmers' and Gardeners' Tools of all kinds. Repairing done at shortest notice. SEND FOR DESCRIPTIVE CIRCULARS.

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**ECLIPSE
Agricultural
ENGINE.**



Best, Cheapest,
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Economical Engine
in the Market.

FIRST PREMIUM WHEREVER EXHIBITED.

Buffalo Pitts Thresher and Cleaner,

The old Standard, and still ahead of all competitors.

Kirby and Wheeler Mowers and Reapers,

OSBORNE SELF-BINDING HARVESTER.

A full line of Harvesting Machines, adapted to the wants and taste of Farmers any and everywhere.

**Buckeye Grain and Fertilizer Drill,
Star, Victor and Ilion Horse Rakes,
Circular Saw Mills,**

Portable Grist Mills,

Millstones, Smut Machines, Bolting Cloths,

Mill Picks, Leather and Gum Belting,

Cucumber-Wood Pumps,

Buckeye Force Pump,

The Watt and Ball Plows, &c., &c.

Prices and Descriptive Circulars furnished on application, and correspondence solicited from all wanting anything in my line.

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**No. 53 LIGHT STREET,
BALTIMORE, MD.**

\$72 A WEEK. \$12 a day at home easily made. Costly outfit free. Address TRUK & Co., Augusta, Maine. **\$66** a week in your own town. Terms and \$5 outfit free. Address H. HALLETT & Co., Portland, Maine.

TRY THE LONDON HORSE AND CATTLE CONDITION FOOD.

It has stood the test of time of 37 years in England, Ireland, Scotland, France and Germany, and pronounced the best Food for maintaining the Health of all Horses, Cows, Sheep, Hogs and Poultry ever known in the world; and, upon trial, it will exalt its own merits. **AND EVERY PACKAGE IS GUARANTEED TO CONSUMERS.** It is the third of the cost of all Condition Powders, and contains nothing in it but what any BEAST can take inwardly, without a particle of Danger or Injury. A sure cure for ailments arising from the Stomach. **PACKED IN 6-LB. BOXES. PRICE \$1.00. FOR SALE BY ALL DRUGGISTS AND FEED DEALERS.**

JOHN S. KNAPP, Sole Representative for U. S., 69 S. Charles St.

ADAMS EXPRESS OFFICE, BALTIMORE, MARCH 12, 1879.

JOHN S. KNAPP—Sir: The London Horse and Cattle Food I have made a test of, and find it to be as good, if not better, than any other Food now in use. I heartily recommend it to the public.

Very respectfully, JOHN HOOD, Stable Manager Ad. Ex. Co. CUMBERLAND VALLEY, PA., APRIL 18, 1879.

JOHN S. KNAPP, Esq.—Dear Sir: I have used the London Horse and Cattle Food and I am surprised at its results on my cattle, as they are in a better condition and yield a greater quantity of milk and butter since its use that I feel satisfied that when its merits become known it will be universally used by all farmers.

Respectfully, JOHN F. GROWDON.

N. B.—A dollar spent for a good article, and yet sufficient, is worth more to you than that made in small outlays and reap no benefit thereby.

DIAMOND IRON PLOW.

We call special attention of Farmers to the DIAMOND IRON PLOW and PATENT JOINTER with Wrought-Iron Standard, of harder, stronger and more durable metal than any other Plow Castings in the market. Send for a Descriptive Circular.

We are the Sole Proprietors and Manufacturers of

THE ACME PLOW,

Which is becoming so popular. We also call special attention to

Brown's Walking Cultivator,

With late important improvements, making it one of the most valuable and desirable labor-saving implements the farmer can have for the CULTIVATION OF CORN, TOBACCO AND COTTON.

All Kinds of Agricultural Implements, Machines and Tools, Garden and Field Seeds, Fertilizers, &c., For Sale Low.

THOMAS NORRIS & SON,

60 Light Street, Baltimore.

GILPIN'S VEGETABLE LIVER PILLS

Are prepared, with great care, from medical plants, are coated with sugar that they may be taken by the smallest child and upon the most delicate stomach; are intended especially to act upon the Liver—thereby relieving all such diseases as COSTIVENESS, HEADACHE, PARALYSIS, DYSPEPSIA, COLIC, JAUNDICE, and all diseases of a Bilious origin. No better evidence can be offered in favor of these Pills than the very fact that where their ingredients are known to family physicians, they are using them in their private practice. We append the following from one of our most prominent physicians:

DR. GILPIN—After carefully examining the formula of your Sugar-Coated Pills, I feel it but justice to say, that the combination is certainly perfect, and comprises the only remedies I ever believed were the proper ones to be used in diseases of a bilious origin. I shall take pleasure in recommending them not only to my patients, but the entire medical profession.

Yours truly, J. M. WISTAR, M. D.

OAKLAND, June 28, 1869.

WESTON, W. VA., June 18, 1869.

Messrs. CANBY, GILPIN & Co.—Gents: Please send by express twelve dozen Gilpin's Vegetable Liver Pills. I have the most flattering accounts from all who have used them, and believe the day is not far distant when they will supersede all others.

Yours,

F. M. CHALFANT.

We could fill several pages with certificates, &c., from prominent men throughout the country, but prefer to let the Pills in the future, as they have in the past, rest entirely on their own merit—knowing that wherever they are known their use will pass down from generation to generation.

GILPIN'S VEGETABLE LIVER PILLS are sold by all respectable Druggists and Country Store-keepers throughout the United States and Canadas.

Principal Depot: CANBY, GILPIN & CO., Baltimore.

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Paper Hangings & Window Shades,
 Upholstering and Curtain Decorations,
WINDOW AWNINGS, MOSQUITO NETS, CORNICES, &c.

Orders by mail promptly attended to. Samples freely sent, and first-class workmen sent to all parts of the country.

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(Between Orchard and Biddle Streets.)

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GOVANSTOWN, BALTIMORE COUNTY, MD.

**ORNAMENTAL AND FRUIT TREES, FLOWERING SHRUBS,
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We invite the attention of the public to our select stock of the following: **STANDARD** and **DWARF** PEARS,—2, 3 and 4 years old. **APPLES**—Standard and Dwarf. **CHERRIES**—Standard and Dwarf. **APRICOTS, CRAB APPLES, MULBERRIES, GRAPE VINES,** of the most popular kinds, together with other small fruits.

Our **COLLECTIONS** of **ORNAMENTAL** Trees and Shrubs are large, and embrace most of the rarest sorts.

ROSES on their own roots, with the newest of **BEDDING-OUT** plants by the dozen or 1,000, for which we have issued a separate Catalogue.

SPECIAL.—60,000 one and two-year old **OSAGE ORANGE** plants for hedges.

CATALOGUES FORWARDED ON APPLICATION. ORDERS BY MAIL PROMPTLY ATTENDED TO. ALL GOODS DELIVERED IN BALTIMORE FREE OF CHARGE.

W. D. BRACKENRIDGE.

M^cGINNIS HARROW.

From Mr. J. D. Guthrie, of Shelby county, Ky., State Grange Purchasing Agent, and famous grower of Long-Wooled Sheep.

SHELBYVILLE, Ky., May 6th, 1878.

MESSERS. M'GINNIS, TAYLOR & HOLDERBY:

GENTLEMEN—In reply to your request for my opinion, I take pleasure in saying the M'Ginnis Harrow has given universal satisfaction.

It pulverizes deeply, and its smoothing capacity is equal to any Harrow I have ever tried.

It stands unrivaled for destroying the toughest sods with its knife-like teeth, perfectly reducing the sod with two harrowings, presenting a thorough seed-bed for any kind of grain or seed.

Its draft is much lighter than the ordinary Harrow.

It is equal to the Thomas Harrow in lightness of draft, while it possesses decided advantages over the Thomas in **DEEP PULVERIZATION, STRENGTH AND DURABILITY.**

I have said thus much from observation of its working on the field.

While the Thomas Harrow is better adapted for the shallow covering necessary for very small seeds, for general purposes I think the M'Ginnis Patent is WITHOUT A RIVAL.

Yours truly,

J. D. GUTHRIE.

—WRITE TO—

A. P. OR M. B. ROWE,

**CO-OPERATIVE STOCK FARM & POULTRY YARDS,
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For Herd-Book Jersey or Ayrshire Cattle, bred from stock selected in person from best Northern breeders and from "Centennial" Stock Exhibition. Cotswold, Leicester, Shropshire and Southdown Sheep, all bred from best imported stock, and Lambs of each breed for sale in August. Herd-Record Berkshire Swine of best strains, and Essex surpassed by none. Poultry—Choice, well-marked young fowls from all of our varieties will be for sale this fall. Orders for eggs from all classes have closed, except Leghorns. We will continue to fill orders for Leghorn eggs, of either the brown or white variety, at \$1.50 per dozen. More premiums have been awarded to our stock at the Virginia State Fairs than that of any other exhibitor in the State. And we would refer all to the whole community in which we live and where our Senior has resided for more than half a century, and particularly to all those whom we have supplied with stock, both North and South,—as we always endeavor to make our stock our best advertisement, and guarantee satisfaction.

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155 W. Fayette Street. } Foot of Leadenhall St.

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We are now offering to the Trade the following **WELL-KNOWN**
BRANDS OF GOODS, which we guarantee
fully up to Standard:

SLINGLUFF'S DISSOLVED GROUND BONE,

Containing 3 per cent. of Ammonia.

SLINGLUFF'S Dissolved South American Bone Ash

Containing 40 to 44 per cent. Soluble Bone Phosphate.

SLINGLUFF'S Dissolved South Carolina Phosphate

Containing 28 to 32 per cent. Soluble Bone Phosphate.

To meet the demand for a high-grade Fertilizer, we are offering **SLINGLUFF'S NATIVE SUPER-PHOSPHATE**—prepared entirely from Animal Bone—highly ammoniated.


Also, **SLINGLUFF'S No. 1 AMMONIATED SUPER-PHOSPHATE**. This we can confidently recommend as one of the best fertilizers sold in the market at a low price.

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 **Cotton, Tobacco, Corn, Oats, Wheat, &c.**
Works, SOUTH BALTIMORE.

Where they have introduced the MOST COMPLETE MACHINERY for compound-
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SOLUBLE SEA ISLAND GUANO

So well-known and of UNDOUBTED EXCELLENCE.

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A High-Grade Fertilizer of KNOWN MERIT.

Dissolved Bone Phosphate

Prepared from GROUND ANIMAL BONES.

ACIDULATED SOUTH CAROLINA and NAVASSA PHOSPHATES

AMMONIATED ALKALINE PHOSPHATE,

A complete manure, endorsed by the Patrons, who have used it with great satisfaction
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RAW and STEAMED BONES, POTASH SALTS,

And all Fertilizing Materials in Store and for Sale.

 **SPECIAL COMPOUNDS PREPARED ON ORDERS.**

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